USER MANUAL

SR 1535 R

V 1.4

Order No: 9103-0319

Dear fellow Hi-Fi enthusiast,

With the addition of the **SR 1535 R** digital surround receiver to your Hi-Fi system you are expanding it to embrace a completely new dimension: Audio-Vision.

With the **SR 1535 R** you can play Dolby Pro Logic, Dolby Digital[1)] and dts[2)] encoded television programmes, video films and DVDs and experience a genuine "live" atmosphere, complete with exciting sound effects. The **SR 1535 R** is also capable of generating artificial sound fields, which enhance the apparent reality of non-encoded programme material. For example, if you are watching a sports programme, you can allow yourself to be transported into the stadium, or listen to a jazz concert in an authentic simulation of the atmosphere of a typical jazz club.

Of course, it is essential that all these new facilities should have no detrimental effect on the excellent sound qualities of your Hi-Fi system, and the design of your new machine has been carefully thought through from start to finish to ensure that this is the case.

As you would expect, the **SR 1535 R** features five high-quality output stages of discrete construction, offering outstanding sound characteristics and generous reserves of power, and they can cope with impedance-critical loudspeakers and complex surround effects covering a very wide dynamic range with effortless accuracy. The unit includes a high-precision digital signal processor which is responsible for precise decoding of the surround material as well as generating the sound fields.

Naturally, we have remained faithful to our basic design and manufacturing principles in developing the **SR 1535 R**. This design philosophy includes an insistence on durability and reliability, the avoidance of materials which are environmentally harmful, the use of metals instead of plastics, and the exclusive exploitation of high-quality, thoroughly tested materials. To ensure consistently high product quality we subject everything we make to a comprehensive monitoring process, terminating in a fully automatic computer-controlled final quality check and acceptance procedure.

Optional accessories for this unit include high-quality cables and connectors, together with a range of Hi-Fi racks designed to match the design of our equipment.

We have summarised some basic information regarding surround sound and video connections in the chapters **'*Explanatory notes on the subject of Surround*', '*Loudspeaker configurations for the SR 1535 R*'** and **'*Picture norms, connecting AV devices to the SR 1535 R*'**. We recommend that you read these chapters first, as this will make it easier to understand how to install the equipment and operate it correctly.

We are grateful to you for placing your faith in us, and hope that you will enjoy many hours of pleasure with your **T+A SR 1535 R** digital surround receiver.

T+A elektroakustik GmbH & Co KG

1) Manufactured under licence to Dolby Laboratories. "Dolby","Pro Logic", "Surround EX", and the double-D symbol are trademarks of Dolby Laboratories. Confidential, unpublished documents. © 1992-1997 Dolby Laboratories. All rights reserved.

2) "dts" is a trademark of Digital Theater Systems, Inc.

CE All components used in this device meet the current German and European safety norms and standards. For your own safety please be sure to read right through these operating instructions. It is especially important to observe the instructions regarding setting up and operating the equipment, and the safety notes.

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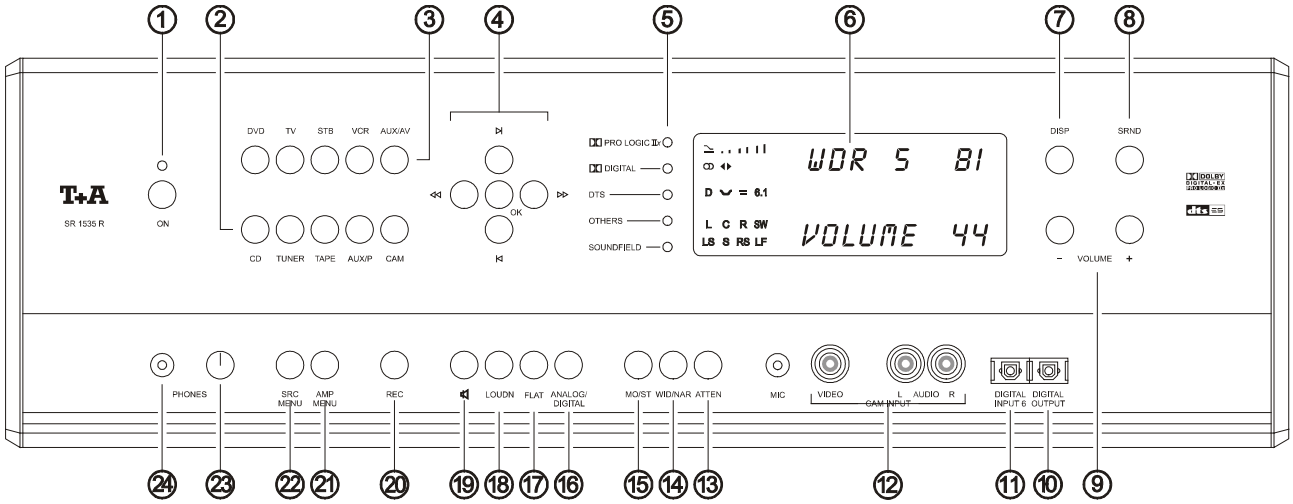
Front panel controls



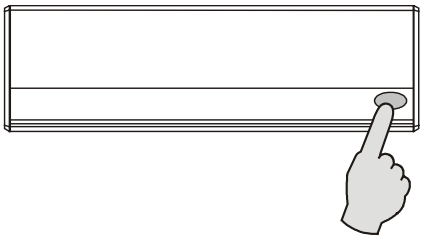
Opening and closing the flap

The flap is fitted with a snap closure.

To open the flap press lightly at the marked point; the flap will then spring open.

Never pull the flap – the snap closure will be damaged!

To close the flap raise it and press it lightly against the machine until the snap closure engages.



① ON

The surround receiver's On / Off switch.

- **Switching on and off**

Pressing the mains button ON switches the surround receiver on and off. When the machine is switched on and ready to use, the green LED glows.

- **Stand-by mode**

If you hold the ON button pressed in for about one second when the surround receiver is already switched on, the machine switches to stand-by mode.

In stand-by mode it is possible to make video recorder recordings via the **SR 1535 R**. The screen displays the selected AV recording source (see section **'*VCR recording with the SR 1535 R*'**).

Selecting the source

The **SR 1535 R** allows you to record from an AV source (AV record source) to a video recorder whilst simultaneously viewing and listening to the same or any other source (viewing and listening source).

Selecting a viewing and listening source

② Audio source devices (listening source)

CD TUNER TAPE AUX / P

You can select one of the analogue signal sources (**CD, TUNER, TAPE or AUX/P**) as listening source by briefly pressing an **audio source unit** button.

③ AV source devices (viewing and listening source)

DVD TV STB VCR AUX / AV CAM

You can select one of the AV signal sources (**DVD**, **TV**, **SET-TOP BOX**, **VCR1**, **VCR2**, **AUX/AV1**, **AUX/AV2** or **CAM**) as viewing and listening source by briefly pressing one of the **AV source device** buttons.

Press the appropriate source button repeatedly to switch between **VCR1** and **VCR2** or **AUX/AV1** and **AUX/AV2**.

Notes:

- If you select **CD** as listening source, the surround receiver automatically passes the picture signal from the **DVD** player to the TV output. This means that the **SR 1535 R** supports combination DVD/CD players (e. g. **DVD 1230 R**), which also display on-screen information when in CD mode.

Selecting an AV recording source

To switch to a different AV recording source you must hold the SHIFT button [behind the flap] pressed in, and at the same time press an AV source button DVD, TV, STB or AUX / AV. In this way you can select the desired AV recording source.

When you switch devices, the current AV recording source is briefly displayed at **bottom left** on the screen, e. g.:

R-DVD , R-STB or AV1

After this the receiver reverts to the normal display, i. e. the current viewing / listening source and volume, e. g.:

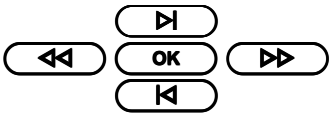
TUNER 36

The signal from the AV recording source is available at the **VCR1/VCR2** output socket.

Notes:

- In stand-by mode the selected AV recording source is displayed at low brightness at **bottom right** on the screen so that you can easily check it; see '***VCR recordings with the SR 1535 R***'.
- It is also possible to switch to a different AV recording source while the surround receiver is in stand-by mode.

④ Cursor block (multi-function buttons)



These multi-function buttons are used to control all the menus, and also operate the tuner.

	Menu control	Tuner operation
▶| / |◀	Select button	Select preset
◀◀ / ▶▶	Change button	**Short press:** Manual station tuning **Long button press** (approx. 1 sec): Initiate station search
OK	Confirm button	**Short press:** Brief display of preset number and reception frequency **Long button press** (approx. 1 sec.): Radiotext display on / off

⑤ Display of decoder mode

PRO LOGIC II
Lights up when the **DOLBY Pro Logic II** decoder is active.

DOLBY DIGITAL
Lights up when **DOLBY DIGITAL** encoded programme material is being reproduced.

DTS
Lights up when **dts** encoded programmed material is being reproduced.

OTHERS
This display is designed for possible future function expansions (e. g. MPEG).

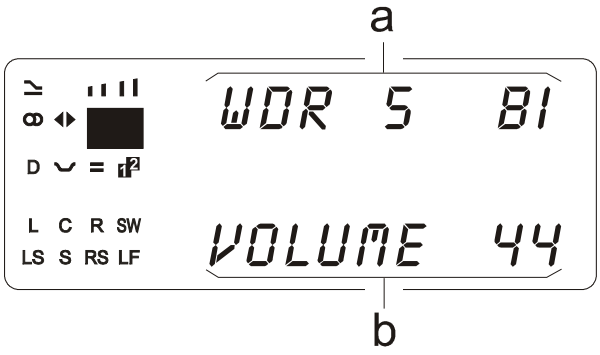
SOUNDFIELD
Lights up when you select a sound field simulation.

Note:

With 96 kHz encoded programme material the only operating modes possible are: Stereo, Mono, Mono 1, Mono 2 and Disco.

⑥ FRONT PANEL SCREEN

All the display elements of the **SR 1535 R** are grouped on the clearly laid out screen. The screen only ever shows the essential data, in order to keep the display as simple and clear as possible.



a	Alpha-numeric display field. Context-sensitive messages are displayed here, e. g. when using the Setup menus. If the set station is transmitting **RDS** information, the screen shows the station name in plain text. Rarely required supplementary information, such as the exact reception field strength, can be called up and displayed by pressing a button. (see '***Tuner menu - display mode'***).
b	Alpha-numeric display area for showing preamplifier and decoder messages (source device, volume etc.).
	Attenuator Aerial attenuator switched on - see (ATTEN) button.
	Reception field strength The field strength, and the likely reception quality, of the station selected can be assessed by means of these bar symbols. They can be interpreted as follows:
No bar	**Very weak reception,** only worth receiving in **Mono**
2 bars	**Moderate reception**, hiss-free **Mono** reception, **Stereo** reception with slight hiss
4 bars	**Very good reception**, hiss-free **Stereo** reception
	Note: Although this is a crude method of assessing the signal, it is entirely adequate for deciding whether a station is worth selecting during the station search process. For a more accurate display of field strength, e. g. when you are establishing the exact position of a rotary aerial, you can switch the screen to an alpha-numeric display and obtain an accurate numeric value (see '***Tuner Menu'***).

	Stereo The set station is transmitting a stereo programme. If a Mono programme is picked up, the **Stereo** indicator disappears. The same applies if you switch manually to Mono using the (MO / ST)-button.
	Wide The station you have selected is being received using wide reception bandwidth. This provides excellent quality reception in good reception conditions when there are no adjacent stations to cause interference problems. If you manually switch the bandwidth to **Narrow**, the **Wide** indicator disappears - see (WID / NAR) button.
D	**Digital input** The assigned digital input is switched on - see (ANALOG / DIGITAL) button.
	Loudness The volume-dependent tone control is switched on - see (LOUDN) button.
=	**Flat** The unit is in **Flat** mode - see (FLAT) button.
	If this symbol lights up, the second listening zone is active. See the chapter **'*Multi-room operation*'** for more information on 2-zone operation.

The symbols listed below light up if the input signal contains information on the corresponding surround channel, and a loudspeaker has been assigned to this channel in the '***Loudspeaker Menu'***.

L	Main speaker, front left
C	Centre speaker, front centre
R	Main speaker, front right
LS	Surround speaker, left
S	Left and right back loudspeaker
RS	Surround speaker, right
LF	**L**ow **F**requency effects channel (low bass channel)

⑦ (DISP) Adjusting screen brightness

The brightness of the alpha-numeric lines of the screen can be set to suit your personal preference by repeatedly pressing the (DISP) button. Three brightness levels are available:

1. Normal setting**:** DISP NORM
clearly legible, even in sunlight.

2. Darker setting: DISP SOFT
subdued setting, for dark locations.

3. Display off: DISP OFF
the screen is completely switched off.

If you set brightness level **3**, the screen switches briefly to normal brightness every time you give a command, so that you can check the settings easily even from a distance. After about four seconds the screen automatically switches back to your preferred brightness level. If you change the brightness level, this also means that the new value only becomes effective after about four seconds.

⑧ (SRND) (Selecting the mode of operation: multi-channel, mono / stereo reproduction, sound field / Dolby Headphone)

Speaker A on: select Surround mode

- The first time you press this button briefly the bottom line of the screen displays the currently set reproduction mode for about three seconds, e. g.:
  STEREO
- If you press the (SRND) button again briefly during this period, the screen cycles through to the next permissible mode.
  The permissible modes of operation are determined by the programme material in use; please refer to '***Explanations on the subject of surround - reproduction modes'***.
- After three seconds the **SR 1535 R** reverts to the standard display, i. e. the current viewing / listening source and volume, e. g.:
  VOLUME 36
- A long press on this button selects the **Surround** reproduction mode (**Stereo** if the machine is playing a 96 kHz source). If MCH-IN is assigned to the active source as input, holding this button pressed in during Surround playback mode switches to the MCH-IN operating mode.

If a multi-channel programme is selected in **surround mode** (DOLBY DIGITAL, dts, Pro Logic etc.), the correct reproduction mode is automatically selected, and the appropriate indicators on the front panel light up.

If an analogue source signal is in use in **surround mode**, the unit automatically selects Pro Logic II. If you wish the programme to be reproduced in a different mode (stereo, mono or sound field simulation), you can select your choice of mode manually ((SRND) button or '***Main menu'***).

Notes:
A sound field simulation cannot be applied to a digital multi-channel programme (DOLBY DIGITAL, dts, etc.).

If the programme material is in 96 kHz encoded PCM stereo, passed to the surround receiver via a digital input, the only modes of operation available are stereo, mono, mono 1, mono 2 and disco.

Speaker A off: select Dolby Headphone mode

Briefly pressing the (SRND) button displays the current Dolby Headphone mode. Every time you press the (SRND) button again, you cycle through to the next Dolby Headphone room type ('PH DH-1', 'PH DH-2', 'PH DH-3').

Holding the (SRND) button pressed in switches back from the Dolby Headphone room types to stereo mode ('PH STEREO').

For more information on Dolby Headphone please see the section entitled **'*Dolby Headphone*'**.

⑨ – (VOLUME) + (volume control)

The volume control is based on high-quality analogue adjustors providing 64 steps of exactly 1.5 dB. Every time you press a volume button the volume is raised ((VOL +)) or lowered ((VOL -)) by 1.5 dB.

When you adjust the volume, the bottom line of the screen briefly displays the new value and overwrites the current source device, e. g.:
VOLUME 36

If a volume button is held pressed in for longer than one second, the volume changes continuously until you release the button again.

The surround receiver then reverts to the normal display, i. e. the current viewing / listening source and volume, e. g.:
TV 36

⑩ DIGITAL OUTPUT

Digital recording output (optical), designed for connecting a digital recorder temporarily (e. g. for transferring material to a portable MD recorder).

The signal of the source you last listened to is present at this output as a stereo signal (also where the input signal is Dolby Digital or dts). Dolby Headphone mode must be switched off during the recording.

⑪ DIGITAL INPUT 6

Digital input (optical), designed for connecting a digital sound source (e. g. MD recorder) temporarily.

⑫ CAM INPUT (VIDEO and AUDIO CINCH)

Video input and stereo sound input for temporary connection of an additional AV source device (e. g. camcorder).

⑬ ATTEN (Aerial attenuator)

Switches the tuner aerial attenuator on and off.

If the receiver is tuned to a station which is close to an unusually powerful local transmitter, or is connected to a very high-level cable signal, you may encounter audible intermodulation effects (whistling and twittering sounds). You can avoid this problem by switching on the aerial attenuator.

The setting you select is displayed briefly in the top line of the screen every time you press the ATTEN button:

ATTEN ON or ATTEN OFF.

The top line of the screen then reverts to the currently selected station, e. g.:

EINSLIVE

If the attenuator is switched on, the screen also displays the ⏦ symbol continuously.

⑭ WID / NAR (reception bandwidth)

Switches the reception bandwidth between “narrow-band” (**NARROW**) and “wide-band” (**WIDE**).

The default setting of the receiver is narrow-band (**NARROW**). In this mode the tuner suppresses interference from adjacent stations, and produces excellent quality sound even under difficult reception conditions.

If reception conditions are very good, and if there are no transmitters close to the selected station which could cause interference, then switching to the **WIDE** setting can give even better results in terms of sound quality. The only drawback of this mode is the inevitable reduction in station separation.

If interference becomes audible in the **WIDE** setting, simply switch back to **NARROW**.

The top line of the screen displays the new setting every time you press the WID / NAR button briefly:

NARROW or WIDE

The top line of the screen then reverts to the currently set station, e. g.:

NDR 2

The screen also shows the ◖◗ symbol continuously when the **WIDE** setting is selected.

⑮ MO / ST (mono / stereo switching)

Switches between Stereo and Mono reception.

If you tune in to a very weak or distant station which can only be picked up with serious background noise, you should switch to **Mono**, as this reduces the hiss markedly.

The top line of the screen displays the current setting every time you press the MO / ST - button briefly:

MONO or STEREO.

The top line of the screen then reverts to the currently set station, e. g.:

WDR 1

The ⚮ symbol also appears on the screen when **Stereo** mode is set.

⑯ ANALOG / DIGITAL (input switching A / D)

When you are using a source device to which a digital input is assigned (see ‘***Inputs Menu***’), this button can be used to switch between the digital input and the analogue input. The setting is not stored.

If the **digital input is switched on**, a D symbol is displayed constantly on the screen.

If a digital input is assigned to the source, switching to the analogue input is only temporary. The digital input is automatically selected again next time you change sources.

⑰ FLAT

Pressing the FLAT button briefly by-passes the tone controls; press it again to switch them back into the signal path.

After changing this setting **the bottom line** of the screen briefly displays the current state of the tone controls, e. g.:

FLAT ON or FLAT OFF

After this the screen reverts to the standard display, i. e. the current viewing / listening source and volume, e. g.:

DVD 36

If **Flat** mode is selected, the screen shows the = symbol constantly.

Analogue Direct mode

To achieve best possible sound quality with analogue sources the **SR 1535 R** features an ‘Analogue Direct mode’. In this mode the music signal produced by the source is amplified by purely analogue means; this avoids unnecessary A/D and D/A conversions. At the same time the digital signal processor is switched off and completely by-passed. The **SR 1535 R** automatically switches to Analogue Direct mode if the following con-ditions apply:

1. The tone controls are switched off (FLAT) = symbol glows.
2. The operating mode “STEREO” is selected.
3. The source device is connected to an analogue input (no digital input assigned).

⑱ LOUDN

Switches volume-dependent tone adjustment (**Loudness**) alternately on and off.

If you change the setting, the current status of loudness is displayed briefly in the **bottom line of the screen**, e. g.:

LOUD ON or LOUD OFF

The screen then reverts to the normal setting, i. e. the current viewing / listening source and volume, e. g.

TV 36

The screen shows the ◡ symbol constantly as indicator that loudness is switched on.

⑲ (🔇)

Switches the loudspeakers alternately on and off.

⑳ REC (Select recording source)

Hold the REC button pressed in to switch recording sources; briefly pressing a source button (DVD, TV, ...) then selects the recording source you wish to use. The current recording source is displayed on the screen while you press the button.

For more information on recording, especially in Multi-Room mode, please read the chapter **'*Recording with the SR 1535 R*'** and **'*Multi-room operation*'**.

㉑ AMP MENU (Amplifier Menu)

- **Opening the '*Main Menu'*.**
  Pressing this button **briefly** opens the '***Main Menu'***. This is where you can change the surround receiver settings which are only occasionally required in normal daily listening: perhaps to allow for temporary changes in the listening room, or to compensate for unusual characteristics of a special listening source (see '***Main Menu'***).
- **Opening the 'Configuration Menu'.**
  Holding the SETUP - button **pressed in** for about one second opens the '***Configuration Menu'***. This menu contains the settings and decoder functions which are rarely needed, such as level and tone adjustments. Dedicated buttons for functions of this sort are not present, as it is important that the front panel should be uncluttered. (see '***Configuration Menu'***).

㉒ SRC MENU (Source Menu)

Opens the '*Tuner Menu'*.
When you press this button briefly the '***Tuner Menu'*** opens. This menu enables you to adjust special settings for the tuner (see '***Tuner Menu'***).

㉓ PHONES (headphone volume control)

In normal use the headphone volume knob is recessed into the front panel. If you press the knob once, it extends from the front panel and can then easily be rotated.

You can now adjust the volume of the headphones independently of the loudspeaker output stages.

When you are satisfied with the level, push the knob back into the front panel under light pressure. It will automatically engage in the recessed position.

㉔ PHONES (headphone socket)

Socket for stereo headphones with a 3.5 mm Ø barrel plug and an impedance of at least 50 Ω. The **SR 1535 R** features a separate high-quality headphone amplifier, independent of the loudspeaker output stages.

Note:
If the loudspeakers are switched on, the headphones always supply a STEREO signal, regardless of the selected mode of operation.
If the loudspeakers are switched off, a simulated surround signal (DOLBY Headphone) is available at the headphone output if a surround mode is selected.

VCR recordings with the SR 1535 R

The overall design of the **SR 1535 R** enables you to select an AV recording source regardless of the viewing / listening source currently selected.

This facility make it possible to record one AV source device (e. g. SAT receiver), while you simultaneously view and listen to another AV source device (e. g. DVD player).

When the surround receiver is in stand-by mode it is still possible to carry out timer-controlled video recorder recordings. You must make sure that the appropriate recording source (e. g. set-top box) is selected.

At the time the recording is to be made the **SR 1535 R** must not be completely switched off (i. e. it must be switched on or in stand-by mode)!

In stand-by mode the selected recording source is displayed at **bottom right** on the screen in subdued mode, so that you can check the setting, e. g.:

R-STB

Notes:

It is only possible to record sources if their analogue sound outputs are connected to the **SR 1535 R**. If you are using a device with a digital sound output, please be sure also to connect the analogue sound output to the input sockets of the **SR 1535 R**.

While a recording is taking place in multi-room mode, in the secondary room it is only possible to listen to the recording (see **' *Multi-room operation* '**).

Adjusting the level of analogue source devices.

When using an analogue source device the best possible reproduction quality is achieved when the analogue/digital converter is matched perfectly to the output level of the source device.

The **SR 1535 R** features an automatic calibration function for adjusting the level. This is the procedure:

1. Select the **analogue audio source** device you wish to use; this is done by pressing the corresponding source button briefly **on the receiver's front panel** (DVD, TV, ...).
2. Select and play a fortissimo (very loud) passage.
3. Hold the source button pressed in for about two seconds until the bottom line of the screen shows the message:

   ADJUST

   The calibration process starts, and you can release the source button.
4. The calibration process terminates when the screen message ADJUST disappears. You can also interrupt the calibration process prematurely by pressing any source button briefly.

Notes:

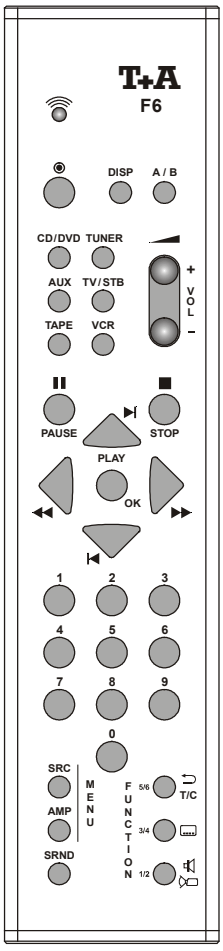
- Automatic calibration is available for **all analogue inputs**. The process should be carried out for all devices connected to these inputs.
- If a source device occasionally shows evidence of overload (distortion) in very loud passages or the screen shows OVERLOAD, even after you have carried out the calibration process, then the analogue/digital converter needs to be re-calibrated to this source device.

Remote control of the Surround Receiver

General information

The **SR 1535 R** can be controlled using the **F6** remote control handset supplied. The infra-red sensor for the remote control system is located in the screen area of the **SR 1535 R**, and there must be direct visual contact between the **F6** and the screen.

The **surround receiver** can also be used to control a complete **'R'** system using a single remote control handset. In this case the user's commands are passed on to the other **'R'** series units via special data leads (**R LINK**).



However, the receiver can also be controlled using the **F1** system remote control unit. In general terms the buttons on the remote control handset control the same functions as the corresponding buttons on the unit itself.

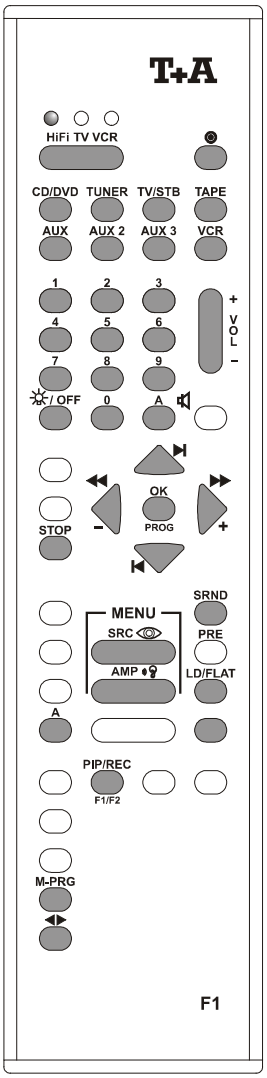
The remote control handset also includes additional buttons, such as the numeric keypad, whose use is explained in greater detail in the next section. The buttons marked '[redacted]' in the illustrations are those required for remote control of the surround receiver. None of the other buttons have any effect on the **SR 1535 R**.

The **F1** remote control handset can also provide full control of **T+A** TV sets and a range of standard commercial video recorders.

Details of using the system with these other units are provided in the operating instructions supplied with them.

If you wish to control the **SR 1535 R** with the **F1** remote control handset the first step is to switch to Hi-Fi mode; this is done by pressing the HiFi TV VCR rocker to the left repeatedly until the LED above **'Hi-Fi'** lights up.

To control a source device (**CD, DVD** etc., - including the integral **TUNER**), first press the corresponding button on the remote control handset. The **surround receiver** then switches to the selected device as **listening source** or **viewing and listening source**, and it can then be controlled from the handset.



The following table shows the remote control buttons and their functions when used to control the surround receiver.

F1	F12	Function
HIFI TV VCR	—	Switches remote control handset to Hi-Fi mode
⏻	⏻	Switches receiver to stand-by mode
A 🔇	A / B	Switches loudspeakers alternately on and off
☼ / OFF	—	Switches loudspeakers off
CD / DVD TUNER AUX TV / STB TAPE VCR AUX 2 AUX 3	CD / DVD TUNER AUX TV / STB TAPE VCR	**Direct source select buttons** Where buttons have two uses (CD / DVD / TV / STB / AUX / TAPE) the first button-press selects the device in this group which you last used. A second button-press selects the next device in the group.
VOLUME	VOLUME	Volume control rocker
⏭ ⏮	⏭ ⏮	**Menu control**: Select button **Tuner mode**: Preset select
◀◀ ▶▶	◀◀ ▶▶	**Menu control**: Change button **Tuner mode**: **short press**: manual station tune **long press:** start station search
OK	OK	**Menu control**: Confirm button **Tuner mode:** **short press**: brief display of preset number and reception frequency **long press:** switch Radiotext display on and off
0 1 : 9	0 1 : 9	Numeric buttons for direct selection of tuner presets
👁	SRC	Call up operation menu of the current source device (e. g. Tuner))
🔊	AMP	**Short press**: call up Main Menu **Long press:** call up Configuration Menu
SRND	SRND	Select playback mode (**cyclic selection**): Multi-channel mode, mono/stereo playback, sound field simulation or Dolby Headphone mode
◀▶	1 / 2 **Short press**	Switch tuner reception bandwidth (narrow / wide)
M-PRG	1 / 2 **Long press**	Switch mono / stereo reception
	3 / 4	Tuner Radiotext on / off
	5 / 6	Source device control button
A	—	Switch aerial attenuator on and off
STOP	STOP	Closes the menu **of the digital surround decoder**
LD / FLAT		**brief press:** Loudness **long press:** FLAT
PIP REC		Switch tuner reception bandwidth (Narrow / Wide)

Menu control system

We consider it important that the control panel of the **SR 1535 R** should be kept as compact and clearly arranged as possible, and for this reason not all functions can be operated directly by dedicated buttons on the machine itself. Instead these functions are accessed via three menus: **'*Configuration Menu*', '*Main Menu*'** and **'*Tuner Menu*'**.

1. The **'*Main Menu*'** contains all the functions required for daily use of the equipment. A brief press on one of the remote control buttons AMP or opens this menu; alternatively press the AMP MENU button on the front panel.

2. All the audio and video components of your surround system have to be set up to match each other perfectly when the system is installed, and adjusted to suit the acoustic characteristics of your listening room. This is done in the **'*Configuration Menu*'**.

> **Note:**
> The Main and Configuration Menus are both displayed page by page on the screen of a TV set, if connected, as well as line by line on the bottom line of the **SR 1535 R's** integral screen.

3. The **'*Tuner Menu*'** allows you to carry out a range of special tuner settings. This menu appears in the top line of the front panel display.

> **Note:**
> Since the tuner is not an AV source device, this menu is not displayed on the TV screen.

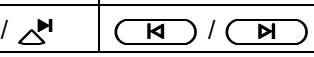
The following table shows how the menu control system is operated using the remote control buttons or the buttons on the front panel.

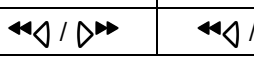
Open Configuration Menu (hold button pressed in)		
F6	**F1**	**Front panel**
AMP		AMP MENU

Open Main Menu (press button briefly)		
F6	**F1**	**Front panel**
AMP		AMP MENU

Closing the menu		
F6	**F1**	**Front panel**
STOP	STOP	AMP MENU

Open Tuner Menu (press button briefly)		
F6	**F1**	**Front panel**
SRC		SRC MENU

Select button		
F6	**F1**	**Front panel**
		

Change button		
F6	**F1**	**Front panel**
		

Confirm button		
F6	**F1**	**Front panel**
OK	OK	OK

- The **select** buttons are used to move to the input positions provided.
- The **change** buttons alter the value at the input position.
- The OK button confirms the input and closes the menu.

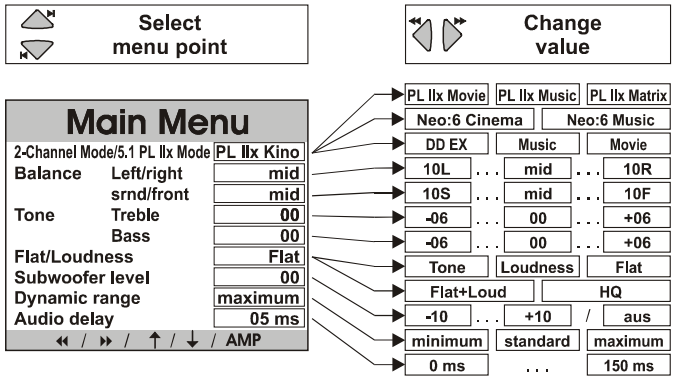
All menus are displayed page by page on the screen of a television connected to the system, as well as line by line on the machine's integral screen.

The following description of the menu points provides details of the adjustment facilities and their effects.

Main Menu

The ***'Main Menu'*** is designed for adjustments to the decoder which are only occasionally required for daily listening.

To open the ***'Main Menu'*** press the remote control button AMP or ( ) briefly, or the AMP MENU button on the decoder's front panel.



2-Channel Mode / 5.1 PL IIx Mode:

This menu point enables you to select the decoder for 2-channel input signals (e. g. from stereo sources). The Dolby Pro Logic II(x) process is available in three different configurations (see also **'Surround systems - explanatory notes'**).

Dolby Pro Logic II

Movie	for films
Music	for music
Matrix	for mono programme material

The **Dolby Digital EX / DTS ES decoder** also understands the DTS Neo:6 process.

DTS NEO.6

Movie	for films
Music	for music

The **Dolby Digital EX / DTS ES Decoder** allows the configuration of the **Pro Logic IIx** decoder for multi-channel-signals, when back-speakers are available.

5.1 PL IIx Mode

Movie	für films
Music	für music
DD EX	for Dolby Digital EX coded material

Note:
The selection ‚**DD EX**' is normally not necessary. In contrast to **Dolby Digital EX** the **Dolby Pro Logic IIx** creates two back-channels instead of one. Only if the back-channels of Dolby Digital EX coded material is reproduced diffusely or nervously, this option may be helpful.

Balance left/right and surround/front:

These two menu points allow you to set a temporary change in the balance between the left/right and front/rear loudspeakers, in order to compensate for a temporary listening position which is less than perfect. You can alter the balance in 1 dB increments, and the current value is displayed in the following form:

10L (left) . . . . . **10R** (right)
10S (surround) . . **10F** (front)
mid (neutral position)

Note:
It is important to start by setting the correct balance for the "standard" listening position, adjusting the volume of the front, surround and center channels. This task is carried out in the **'*Speaker Balance Menu*'** or in the **'*Auto-Setup*'**.

Tone: treble and Tone: bass:

These two menu points allow you to set a temporary change in the treble and bass settings in order to compensate for tonal differences in the recorded material. The setting affects all channels, and the range of adjustment is +/- 6dB in 1 dB increments. The current value is displayed on the screen; 00 dB means '**Linear setting'**.

Note:
It is important to start by establishing the correct tone settings for your room, to allow for imperfect loudspeaker positioning or room influences. This task is carried out in the ***'Tone adjust Menu'*.**

Flat / Loudness:

You can by-pass the tone controls and volume-sensitive volume compensation (loudness) by selecting the following operational modes here:

Flat or **HQ**	Tone controls	off
	Loudness	off
Tone	Tone controls	on
	Loudness	off
Loudness	Tone controls	off
	Loudness	on
Flat+Loud	Tone controls	on
	Loudness	on

Subwoofer level:

If you switch on the subwoofer in *the **'Loudspeaker Menu'***, in this menu point you can adjust its level within the range -10 (dB) to +10 (dB) in order to match its volume to the acoustic conditions in your listening room, and to match the volume of the other channels.

If the subwoofer is switched off in the ***'Loudspeaker Menu'***, this menu point in the ***'Main Menu'*** shows **off**. You cannot adjust the subwoofer level in this situation.

Note:

It is important to start by setting the correct balance between the other channels (front, rear and center). This task is carried out in the ***'Speaker Balance Menu'***.

Dynamic range:

It is possible to reduce the dynamic range of Dolby digital encoded sound material in three stages. The result is that quiet passages are reproduced slightly louder when the volume is set low, whereas loud passages are slightly reduced in volume (s***. 'Surround systems - explanatory notes' -. DOLBY DIGITAL***'). The following dynamic ranges are available:

minimum	highly compressed dynamic range, e. g. for playing at night-time.
standard	standard setting, moderate compression of dynamic range.
maximum	exploits the full dynamic range which the sound source makes available.

Sound Delay:

Some video monitors - especially 100 Hz types, plasma monitors and monitors with progressive scan function - create a delay in picture reproduction. In such cases the result may be poor synchronisation between sound and picture. Since certain source devices employ different picture transfer processes (analogue, progressive, SDI, HDMI), the sound delay may also be due to the source device.

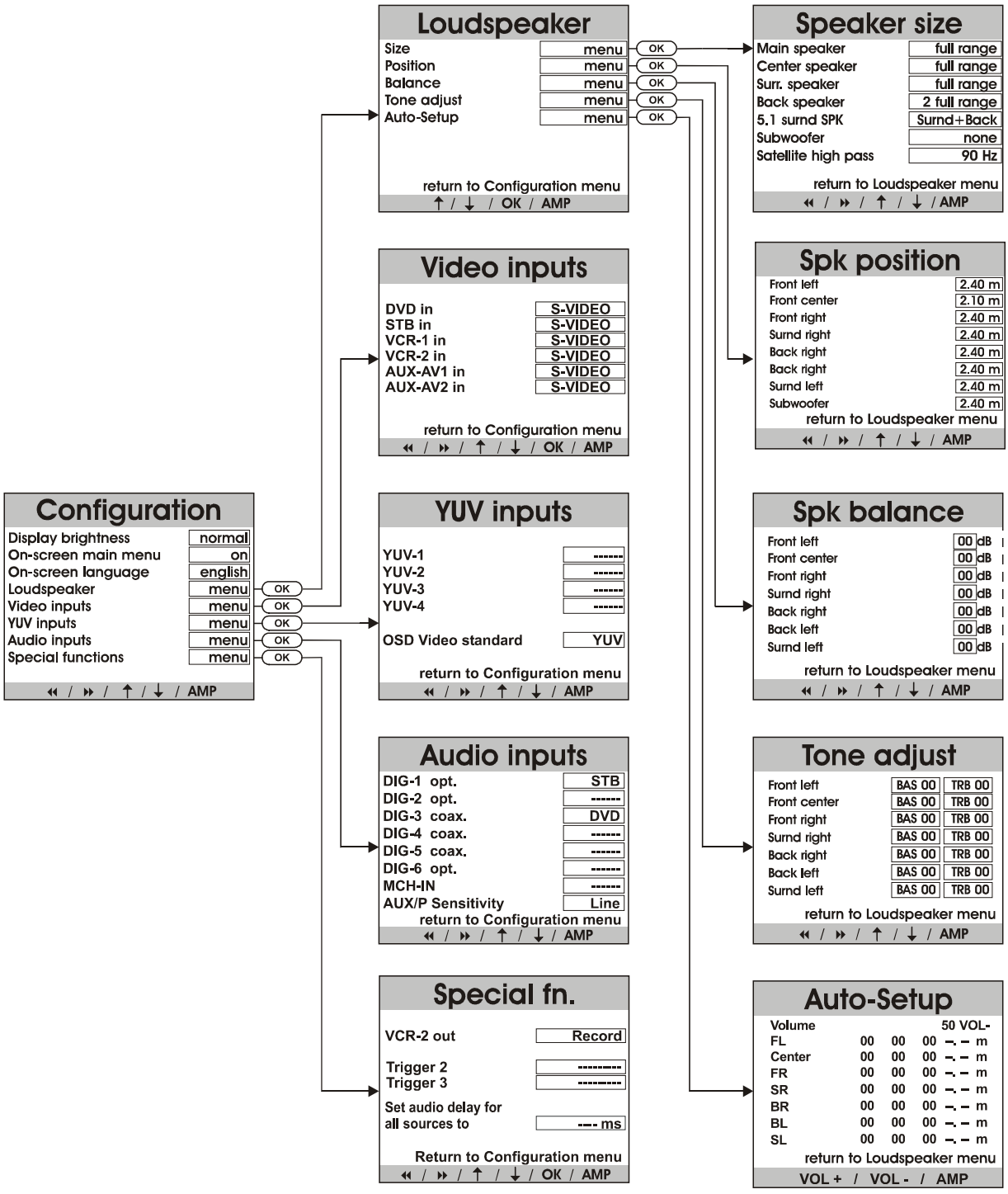
In the menu point Sound Delay you can set a delay for sound reproduction within the range 0 … 150 ms in order to correct the synchronisation between sound and picture ("lip synchronisation"). This value can be set separately for each source device (see also the 'Special Functions' menu for a simplified method of setting the basic value).

System Configuration

In the ***'Configuration'*** you can adjust the settings for all the audio and video components of your surround system so that they match each other perfectly, and at the same time set them to suit the acoustic characteristics of your listening room.

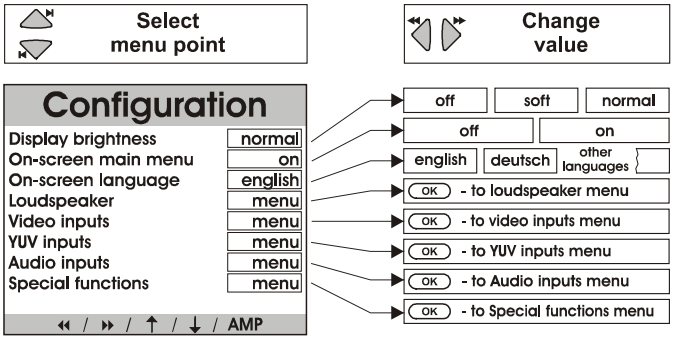
This procedure only needs to be carried out when you are installing the system, or when you are adding or replacing individual components of the system. The following diagram shows the menu structure.

Overview of 'Configuration Menu': ***Dolby Digital EX / DTS ES decoder version (6.1 / 7.1)***


Configuration
Display brightness normal
On-screen main menu on
On-screen language english
Loudspeaker menu
Video inputs menu
YUV inputs menu
Audio inputs menu
Special functions menu
OK
◄◄ / ►► / ↑ / ↓ / AMP
Loudspeaker
Size menu
Position menu
Balance menu
Tone adjust menu
Auto-Setup menu
return to Configuration menu
↑ / ↓ / OK / AMP
Speaker size
Main speaker full range
Center speaker full range
Surr. speaker full range
Back speaker 2 full range
5.1 surnd SPK Surnd+Back
Subwoofer none
Satellite high pass 90 Hz
return to Loudspeaker menu
◄◄ / ►► / ↑ / ↓ / AMP
Video inputs
DVD in S-VIDEO
STB in S-VIDEO
VCR-1 in S-VIDEO
VCR-2 in S-VIDEO
AUX-AV1 in S-VIDEO
AUX-AV2 in S-VIDEO
return to Configuration menu
◄◄ / ►► / ↑ / ↓ / OK / AMP
Spk position
Front left 2.40 m
Front center 2.10 m
Front right 2.40 m
Surnd right 2.40 m
Back right 2.40 m
Back right 2.40 m
Surnd left 2.40 m
Subwoofer 2.40 m
return to Loudspeaker menu
◄◄ / ►► / ↑ / ↓ / AMP
YUV inputs
YUV-1 -------
YUV-2 -------
YUV-3 -------
YUV-4 -------
OSD Video standard YUV
return to Configuration menu
◄◄ / ►► / ↑ / ↓ / AMP
Spk balance
Front left 00 dB
Front center 00 dB
Front right 00 dB
Surnd right 00 dB
Back right 00 dB
Back left 00 dB
Surnd left 00 dB
return to Loudspeaker menu
◄◄ / ►► / ↑ / ↓ / AMP
Audio inputs
DIG-1 opt. STB
DIG-2 opt. -------
DIG-3 coax. DVD
DIG-4 coax. -------
DIG-5 coax. -------
DIG-6 opt. -------
MCH-IN -------
AUX/P Sensitivity Line
return to Configuration menu
◄◄ / ►► / ↑ / ↓ / AMP
Tone adjust
Front left BAS 00 TRB 00
Front center BAS 00 TRB 00
Front right BAS 00 TRB 00
Surnd right BAS 00 TRB 00
Back right BAS 00 TRB 00
Back left BAS 00 TRB 00
Surnd left BAS 00 TRB 00
return to Loudspeaker menu
◄◄ / ►► / ↑ / ↓ / AMP
Special fn.
VCR-2 out Record
Trigger 2 ----------
Trigger 3 ----------
Set audio delay for all sources to ---- ms
Return to Configuration menu
◄◄ / ►► / ↑ / ↓ / OK / AMP
Auto-Setup
Volume 50 VOL-
FL 00 00 00 –.– m
Center 00 00 00 –.– m
FR 00 00 00 –.– m
SR 00 00 00 –.– m
BR 00 00 00 –.– m
BL 00 00 00 –.– m
SL 00 00 00 –.– m
return to Loudspeaker menu
VOL + / VOL - / AMP

Configuration

You can call up the '**Configuration'** menu by pressing the remote control button (AMP) or (🔊), or the (SETUP) button on the front panel of the decoder; in either case hold the button pressed in for about two seconds.



Display brightness:

The brightness of the screen can be set to suit your personal preference. Three brightness levels are available:

off the screen is completely switched off.

soft subdued setting, for dark locations.

normal clearly legible, even in sunlight.

If you set brightness level off, the screen switches briefly to normal brightness every time you give a command, so that you can check the settings easily even from a distance. After about four seconds the screen automatically switches back to your preferred brightness level. If you change the brightness level, this also means that the new value only becomes effective after about four seconds.

Switching the on-screen main menu on and off:

If you just wish to make a temporary change to the balance or tone, it is not absolutely necessary to call up the **Main Menu** on the television screen and superimpose it on what you are watching; in most cases the display on the decoder's screen is quite adequate. At this menu point you can switch the TV on-screen main menu display on and off.

off The **Main Menu** appears line by line on the decoder's screen, but not on the TV screen.

on The **Main Menu** appears on the TV screen and also line by line on the decoder's screen.

On-screen language:

The on-screen menus can be displayed on the TV screen in different languages. Here you can select your language.

Loudspeaker:

The ***'Loudspeaker Menu'*** provides the means to balance the output signals to the loudspeakers in your surround system. At the same time you can adjust the output of the speakers accurately to suit the acoustic and spatial characteristics of your listening room.

Video inputs:

In the ***'Video inputs Menu'*** you can set the correct picture norm to match the picture sources connected to all the decoder's video inputs and outputs.

YUV inputs:

Many source devices feature a high-quality Component (YUV) picture output. If you wish to use this, the source device must be assigned to the YUV input of the **SR 1535 R** in the **'*YUV Inputs menu*'**.

Audio inputs:

On some source devices there is a digital output signal available on others a analogue multi-channel signal. You can assign alternativ input panels of the **SR 1535 R** which are suitable for digital signals (coaxial or optical) or multi-channel signals. In this case the decoder uses the assigned digital or multi-channel signal instead the analogue input signal.

It is also possible to switch the sensitivity of the AUX-PH input between normal sensitivity and phono sensitivity.

Special functions:

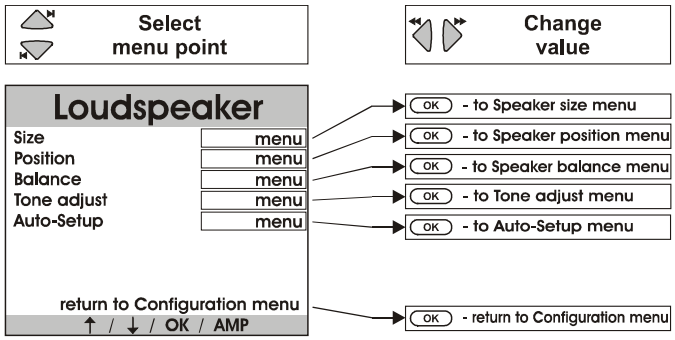
Menu for assigning the high-quality Component Video picture inputs (YUV) to the source devices.

Speaker Setup

In the **'*Loudspeaker Menu*'** you can branch off to the menus for setting the loudspeaker size, loudspeaker position, loudspeaker balance and the individual tone settings for each separate loudspeaker.

The three last menu points enable you to adjust the loudspeakers accurately to suit the acoustic and spatial characteristics of your listening room.

Adjustments should only be made to these settings when you are installing the system, if you are adding, replacing or moving individual loudspeakers, or if the acoustic conditions in your listening room are changed (e. g. changes to the furniture, carpets, curtains etc.).



Speaker size:

Activating this menu point leads to a menu in which you can determine the size of the loudspeakers and the sub-woofer mode. Here you can also select the transition frequency for satellite / sub-woofer mode. This ensures that all the loudspeakers are fed only the frequency range which they can actually reproduce.

You can also select at this point whether the surround channels of 5.1 input signals are only to be reproduced by the surround loudspeakers, or by the back loudspeakers, or both (see **'*Speaker size menu*'**).

Speaker position:

Activating this menu point leads to a menu in which you can determine the loudspeaker positions. Here you can enter the correct distance from each loudspeaker to the listening position. This compensates for delay discrepancies caused by differences in speaker distance from the listening position (see **'*Speaker position menu*'**).

Speaker balance:

Activating this menu point leads to a menu in which you can set the level balance between all the loudspeakers (see **'*LS balance menu*'**).

Tone controls:

Activating this menu point leads to a menu in which you can adjust the tonal balance of the loudspeakers (see **'*Tone controls menu*'**).

Auto Setup

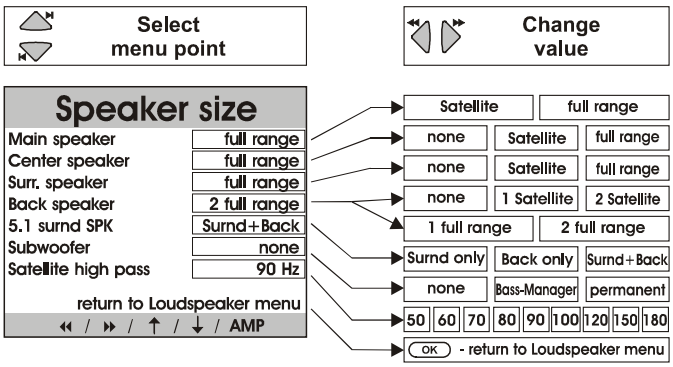
The menu point **'Auto *Setup*'** represents an alternative to setting up the loudspeaker parameters manually, using the **'*LS Balance*'** menu. Calling up the Assistant initiates an automated routine for setting the correct volume, tone setting and position of the individual loudspeaker channels in your surround system.

Speaker size menu

In the **'*Speaker size menu*'** you initially adjust the output signals to suit the existing loudspeaker system.

To avoid the loss of any sound information in systems where not all the loudspeakers (centre, rear and sub-woofer) are present, the missing components must be marked as **none** in the **'*Speaker size menu'*.**

The corresponding sound signal is then distributed over the channels which are present (**Downmix**).


Select menu point
Change value
Speaker size
Main speaker full range
Center speaker full range
Surr. speaker full range
Back speaker 2 full range
5.1 surnd SPK Surnd+Back
Subwoofer none
Satellite high pass 90 Hz
return to Loudspeaker menu
/ / / / AMP
Satellite full range
none Satellite full range
none Satellite full range
none 1 Satellite 2 Satellite
1 full range 2 full range
Surnd only Back only Surnd+Back
none Bass-Manager permanent
50 60 70 80 90 100 120 150 180
OK - return to Loudspeaker menu

Main speaker:

Defines the size and bass capacity of the main left and right front loudspeakers. Select one of the following settings:

Satellit for small speakers whose bass reproduction is necessarily restricted. The low bass content (below the set transition frequency) of the main channel signals is mixed down onto the subwoofer, if present.

full range for larger speakers. The full frequency range is passed on to the main speaker channels without restriction.

Center speaker:

Defines the size and bass capacity of the center speaker. Select one of the following settings:

none if no center loudspeaker is present. The center channel is mixed down onto the left and right main loudspeakers.

satellite for small centre loudspeakers. The low frequency bass signals of the centre channel (below the set transition frequency) are mixed onto other suitable loudspeakers and, if present, the sub-woofer.

full range for a center speaker of about the same size as the main loudspeakers. The full frequency range is passed on to the center channel without restriction.

Note:

If your system does not include a center speaker, the main loudspeakers should be set up not too far away from the TV set, and ideally should be arranged symmetrically about it, otherwise it will be very difficult to localise dialogues on the television screen.

Surround speaker:

Setting the size and bass capability of the surround loudspeakers. Select the settings as follows:

none if no surround loudspeakers are present. The surround channels are mixed down onto the left and right main loudspeakers.

Satellit for small surround loudspeakers. The low frequency bass signals of the surround channels (below the set transition frequency) are mixed by the bass manager onto other suitable loud-speakers and, if present, the sub-woofer.

Vollbereich if the bass reproduction of the surround loudspeakers is very good. The full frequency range is reproduced by the surround loudspeakers without restriction.

Note:

Genuine surround reproduction is not possible without surround loudspeakers!

Back speaker:

Setting the size and bass capability of the back loudspeakers. The following settings are possible in each case for one (6.1 mode) or two (7.1 mode) rear loudspeakers: *)

none if no back speakers are present. The back channels are mixed onto the left and right surround loudspeakers.

satellite for small back loudspeakers. The low frequency bass signals of the back channels (below the set transition frequency) are mixed by the bass manager onto other suitable loud-speakers and, if present, the sub-woofer.

full-range if the bass reproduction of the back speakers is very good. The full frequency range is passed on to the surround channels without restriction.

Notes:

If no back speakers are present, the surround mode **'Surnd EX/ES'** cannot be selected, and Dolby Digital Surround EX and DTS ES are reproduced as normal 5.1 sound.

If you select the setting **'**none**'** in the menu point 'Surround loudspeakers', the back loudspeakers are automatically switched off.

Not all combinations can be set; this is deliberate in order to avoid senseless settings.

5.1 Surnd LS

As described under **'Surround systems - explanatory notes'**, the recommended settings for 5.1 loudspeaker sets differ from those for 6.1 / 7.1 speaker sets. To achieve the correct surround effect the surround loudspeakers are located behind the listener for the 5.1 set-up, whereas they should be positioned more to the side of the listener with the 6.1 / 7.1 arrangement. For this reason it is possible to select here whether the surround information in the **'Surnd 5.1'** mode is to be reproduced by the surround speakers, the back speakers, or both.

Surnd only The surround signals are reproduced only by the surround loudspeakers.

Back only The surround signals are reproduced only by the back loudspeakers.

Surnd+Back The surround signals are reproduced by both the surround and the back loudspeakers.

Note:

If only one back loudspeaker is present, the **'Back only'** setting cannot be selected.

Subwoofer:

In this menu point you set whether a subwoofer is present in your loudspeaker system. Select one of the following settings:

Bass-manager recommended setting for sub-woofer / satellite systems.

If a sub-woofer is present. The signals of the bass effect channel (**LFE**), and all other low frequency bass signals (below the set transition frequency) which are not reproduced by the full-range loudspeakers, are passed to the sub-woofer channel. In this mode it may occur that the sub-woofer has no signal to reproduce in some surround modes or with multi-channel input signals which lack an LFE channel.

If the bass manager is in use, the low-pass filter on the sub-woofer should be switched off, as the bass manager carries out the filtering.

Permanent recommended setting for full-range loudspeakers and sub-woofer.

If a sub-woofer is present and you wish it to operate constantly. In addition to bass management the signals of all channels are mixed together and reproduced by the sub-woofer.

For constant sub-woofer operation the low-pass filter on the sub-woofer must be switched on and the transition frequency on the sub-woofer set in such a way that the sub-woofer only reproduces signals below the bottom transition frequency of the main loudspeakers (generally 30 - 40 Hz)..

none if this setting is selected, at least the main loudspeakers must be full-range types.

If no sub-woofer is present. The signals of the bass effect channel (**LFE**) and all other low frequency bass signals (below the set transition frequency) are reproduced by the main loudspeakers.

Note:

Provided that you have **switched on** the subwoofer in the '***Speaker Setup***', then you can adjust its level in the '***Main Menu***' within the range -10 (dB) to +10 (dB), so that the volume of the subwoofer matches the volume of the other channels.

Satellite high pass:

Here the lower transition frequency for satellite speakers can be selected. The bass range below the frequency set here (for all loudspeakers whose size is set as 'Satellite') is mixed by the bass manager onto other suitable loudspeakers and the sub-woofer.

The following values (Hz) can be set:

50 **60** **70** **80** **90** **100** **120** **150** **180**

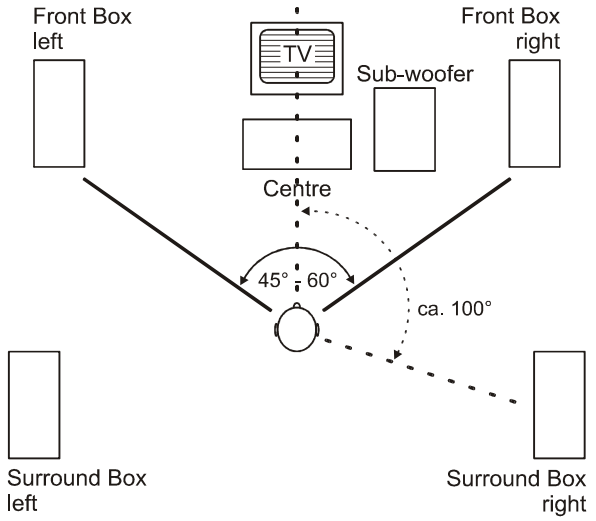
Speaker Position Menu

In the ***'Speaker Position Menu'*** you can enter the distance from the listening position (in 0.3 m increments) for each loudspeaker separately.

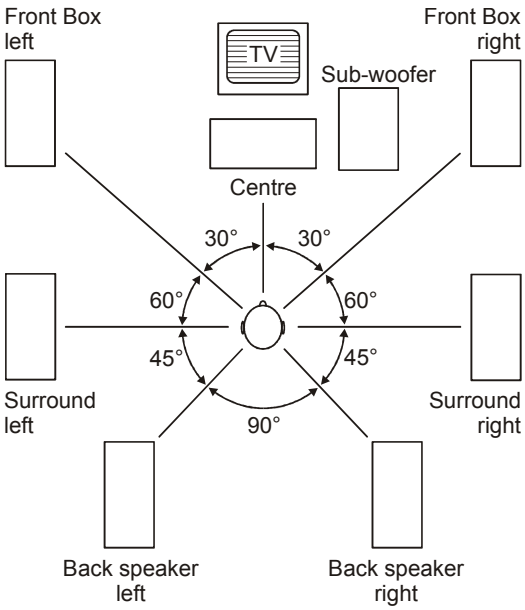
This enables the decoder to compensate for timing discrepancies due to differences in speaker location.

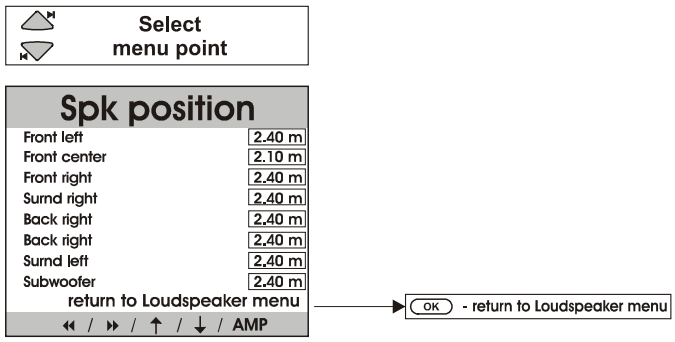
Recommended loudspeaker arrangement

5.1 Loudspeaker set



7.1 Loudspeaker set





Measure the distance between the listening position and the loudspeakers in your surround system, and enter the measured distances.

Note:

The maximum distance of a loudspeaker to the listening position is 12 m. For acoustic reasons greater distances cannot be recommended, and the system cannot compensate for timing errors over a range greater than 12 m.

As the illustration shows, you use the select buttons to move to the input positions in the following sequence.

Output channels not in use (see ***'Loudspeaker Menu'***) cannot be edited.

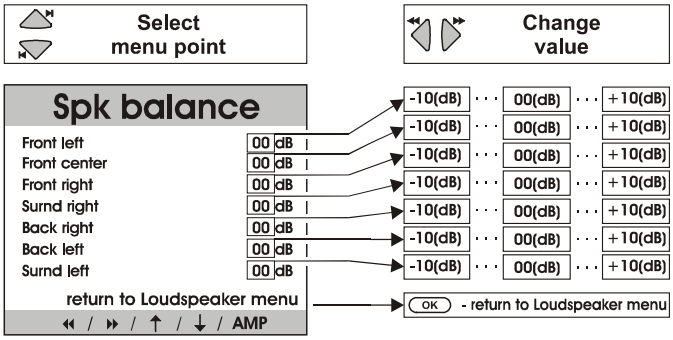
Use the change buttons to enter the measured distance in increments of 0.3 m.

- Main loudspeaker front left (**front left**)
- Center loudspeaker front center (**front centre**)
- Main loudspeaker front right (**front rear**)
- Surround loudspeaker right (**surnd right**)
- Back loudspeaker right (**back right**)
- Back loudspeaker left (**back left**)
- or back loudspeaker centre (**back centre**)
- Surround loudspeaker left (**surnd left**)
- Active subwoofer (any position) (**Sub**)

Speaker Balance Menu

To ensure that the decoder supplies a balanced sound image, the system allows you to adjust the volume of the individual channels to provide a harmoniously balanced arrangement.

The purpose of the ***'Speaker Balance Menu'*** is to adjust the level of all the channels.



When you activate the ***'Speaker Balance Menu'*** you will hear a hiss from the left main loudspeaker lasting two seconds. You will find the data input position after the first menu point.

e. g. 'Front left: 00 '.

The hiss is reproduced on all the channels in turn, in each case lasting for about two seconds.

As the illustration shows, the hiss is reproduced on all the channels in turn, in each case lasting about two seconds.

The system skips any output channels which are not in use (see ***'Loudspeaker Menu'***).

When the hiss is sounding on a particular channel, the on-screen menu indicates the corresponding input position. You can now alter the value within the range **–10** to **+10** using the change buttons. You can immediately hear the result of any change you make.

If you alter the volume, the hiss continues on that channel for a further two seconds before moving on to the next channel. The input position then changes accordingly.

You can override the automatic cycling process by selecting a particular channel using the select buttons; you can then adjust its level as you wish.

Take your time to set all the channels to give as even an impression of volume as possible!

Note:

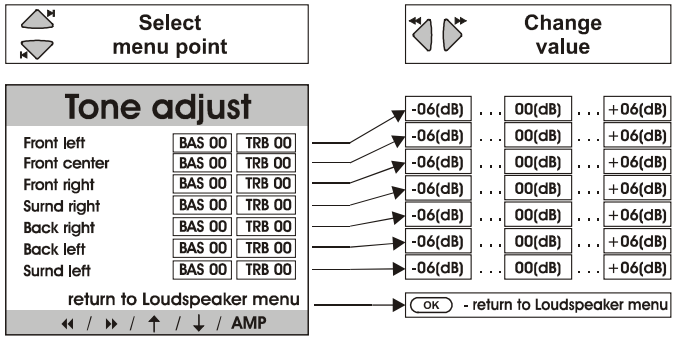
The hissing sound used for this is not suitable for assessing bass volume; the volume of the subwoofer channel can be adjusted in the menu point ***'Subwoofer level'***, which is part of the ***'Main Menu'***.

The levels you set for each channel are stored for use when the surround system has been selected, and applies to all surround modes.

Tone adjust Menu

The decoder features an active tone control system (+/- 6dB) whose purpose is to compensate for the unwanted influence on playback quality of your listening room, or of imperfect loudspeaker positions.

The treble / bass balance can be adjusted separately for all the output channels, and can therefore compensate for problems caused by the location of individual speakers.


Select
menu point
Change
value
Tone adjust
Front left BAS 00 TRB 00
Front center BAS 00 TRB 00
Front right BAS 00 TRB 00
Surnd right BAS 00 TRB 00
Back right BAS 00 TRB 00
Back left BAS 00 TRB 00
Surnd left BAS 00 TRB 00
return to Loudspeaker menu
/ / / / AMP
-06(dB) ... 00(dB) ... +06(dB)
OK - return to Loudspeaker menu

The first step is to select a sound source which you wish to use as the basis for adjusting the tone controls. Make sure that the sound source you choose is active on all the channels, so that the sound image is typical of your listening habits, and any changes you make to the tone controls are immediately audible in that setting.

Once you have activated this section of the menu, you will find the data input position after the first menu point.

e. g. 'Front left BAS: 00 '.

You can now alter the value within the range **–06** to **+06** using the change buttons; any change you make is immediately audible.

Select the input position using the select buttons.

As the illustration shows, you can cycle through the input positions in the following order:

Output channels not in use (see ***'Loudspeaker Menu'***) cannot be edited.

Set values for treble **(TRB)** and bass **(BAS)** on all channels which gives as well-balanced a sound image as possible.

Note:

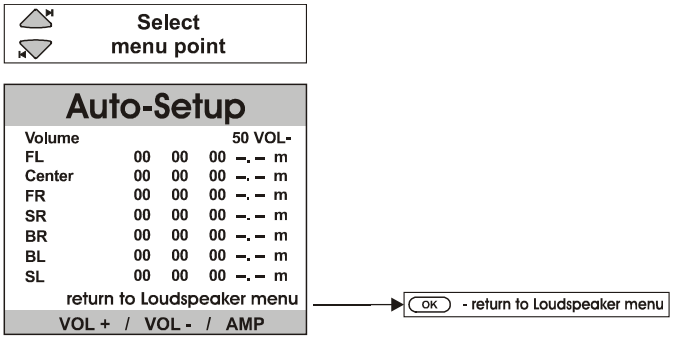
Adjusting the tone controls has an influence on the overall level of that channel. After making a change here we recommend that you call up the **'*Speaker Balance Menu*'** again so that you can check the balance of all channels and make corrections if necessary.

Auto Setup

T+A provides the Auto Setup system as an aid to setting up a surround system correctly. If you follow the steps described below, the **SR 1535 R** will carry out an automatic calibration of your loudspeakers with the help of the calibration microphone supplied with the set. Under normal listening room conditions this process reliably provides optimum results.

If the calibration process is to work properly the following conditions need to be fulfilled: an unobstructed location for the calibration microphone close to your preferred listening position (e. g. on the living room table, or on the backrest of an armchair), and direct visual contact between the microphone and each loudspeaker.

The first step is to connect the calibration microphone to the socket marked **'MIC'** on the front panel. Now set a normal volume for listening to the system.


Select
menu point
Auto-Setup
Volume 50 VOL-
FL 00 00 00 –.– m
Center 00 00 00 –.– m
FR 00 00 00 –.– m
SR 00 00 00 –.– m
BR 00 00 00 –.– m
BL 00 00 00 –.– m
SL 00 00 00 –.– m
return to Loudspeaker menu
VOL + / VOL - / AMP
OK - return to Loudspeaker menu

To ensure that the calibration can be carried out properly, the volume must first be set correctly. To this end the **SR 1535 R** generates a hiss signal on the front left channel. The screen displays the currently set volume value in the **'*Volume*'** line, followed by the button you need to press. **'VOL+'** means that the volume is too low; **'VOL-'** means it is too high. Only if the display shows **'OK'** can the calibration process be initiated by pressing the OK button.

The **SR 1535 R** now carries out the automatic calibration process. During the procedure you will hear your loudspeakers emit various test signals. During the period of the calibration procedure it is important that no loud extraneous sounds should occur, as these could falsify the results of the process.

The **'*Auto Setup*'** screen display on your TV set provides constant information about the settings the system has determined.

The first columns show the values determined for the set level corrections (volume compensation). The following two columns list the bass and treble settings, and the final column the loudspeaker distances.

Notes

If the calibration process was adversely affected by extraneous noises, or if for any other reason the calibration process produces implausible results, note that the procedure can be re-started at any time.

The distances determined by the Assistant are calculated on the basis of acoustic delay times. They may be slightly different from the geometric distances due to signal delays in your loudspeakers.

If the automatic calibration procedure produces incorrect results due to difficult acoustic conditions in your listening room, we suggest that you should first attempt to achieve better results by varying the microphone position and / or the volume setting.

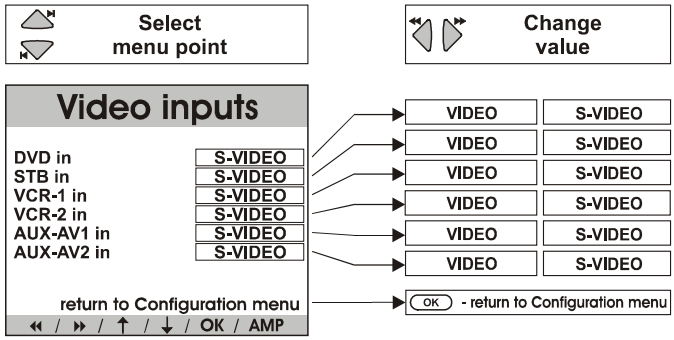
If this also fails to produce good results, the automatic calibration process is not suitable for your conditions. In this case you should set up the loudspeakers manually using the **'*Loudspeaker Menu*'**.

Video Inputs menu

Every AV source device is connected to one of the AV inputs of the **SR 1535 R** by means of a Video or S-Video cable, in order to supply picture data to the **SR 1535 R**. In the **'*Video Inputs menu*'** you determine for each AV input whether the source device connected to it is to operate in normal Video or S-Video mode.

Notes:

If your device features S-Video outputs, we recommend that you use S-Video mode, as this provides better picture quality.

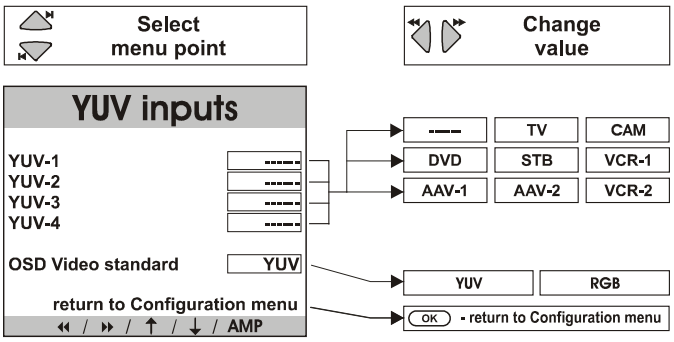


For more information on picture norms please refer to the chapter **'*Picture norms, connecting AV devices to the SR 1535 R*'**.

YUV Inputs menu

Some source devices provide picture signals using the high-quality Component Video norm (YUV, YPbPr or YCbCr).

If your video monitor features a corresponding Com-po-nent input, we recommend that you connect all YUV-capable sources using YUV cables **in addition *)** to the standard Video or S-Video connections.



In the YUV Inputs menu you determine which source is connected to which YUV input.

For example, if the DVD player is connected to YUV input 1, as in '***Wiring Diagram 4***', you should enter **DVD** in the YUV-1 line of the menu. Repeat the pro-ce-dure with all your YUV sources.

If you select a source configured in this way, the **SR 1535 R** switches the normal video signals (Video or S-Video) of this source through to the corresponding MONITOR output. At the same time the YUV signals of the source are passed to the YUV monitor output.

You can then switch between inputs on your video monitor, in order to decide whether you prefer to watch the film in normal video quality or in YUV quality.

*) You cannot simply decide not to connect the Video / S-Video signals, as YUV signals cannot be recorded by video recorders.

OSD Video standard

The **SR 1535 R** is capable of generating its user menus (OSD = On-Screen Display) and displaying them on the video monitor connected to it via the Component Video output using the YUV or RGB video norm. Here you should enter the picture norm used by your projector.

This setting only affects the Component Video output. It has no effect on the normal Video and S-Video outputs of the **SR 1535 R**.

Audio inputs Menu

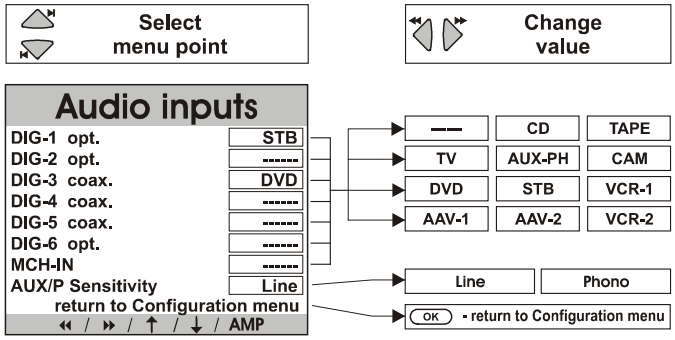
Up to eleven external source devices can be connected to your surround receiver: eight **AV source devices** (with picture and sound signal) and three **Audio source devices** (with stereo output signal).

The analogue stereo signals of the external source devices are passed to the **SR 1535 R** via the co-axial Cinch sockets.

Some source devices also generate a digital output signal, others an analogue multi-channel signal (**MCH**). Alternative input sockets of the **SR 1535 R** can be assigned to these source devices; these inputs are suitable for digital signals (co-axial or optical) and multi-channel signals.

In such cases the assigned digital or multi-channel signal from the decoder is accepted and processed instead of the analogue stereo input signal.

The alternative inputs are assigned within the '***Inputs Menu'***.



The illustration of the menu on the left lists the available alternative inputs of the **SR 1535 R** - the co-axial and optical digital inputs **(DIG-1, DIG-2, DIG-3, DIG-4, DIG-5, DIG-6)** and the multi-channel input **MCH-IN**.

Each of these alternative inputs can be assigned to an audio or AV input.

CD **TAPE** **TV** **AUX-PH**

CAM **DVD** **STB** [1)]

VCR-1 [2)] **VCR-2** [2)] **AAV-1** [3)] **AAV-2** [3)]

[1)] **STB** ➪ Settopbox (SAT-Receiver)

[2)] **VCR** ➪ Videorecorder

[3)] **AAV** ➪ AUX/AV

Examples:

(see Wiring Diagram 3)
The digital sound signal of the **DVD** player is connected to the co-axial (Cinch) digital input **DIG-3** of the **SR 1535 R**; for this reason the name **DVD** must be added to **DIG-3** as a suffix - and that is the factory default setting.

(see Wiring Diagram 5)
The digital sound signal of the **SETTOPBOX** is connected to the optical digital input **DIG-1** of the **SR 1535 R**; in this case the name **STB** must be added as a suffix to **DIG-1.**

Setting Aux-P sensitivity

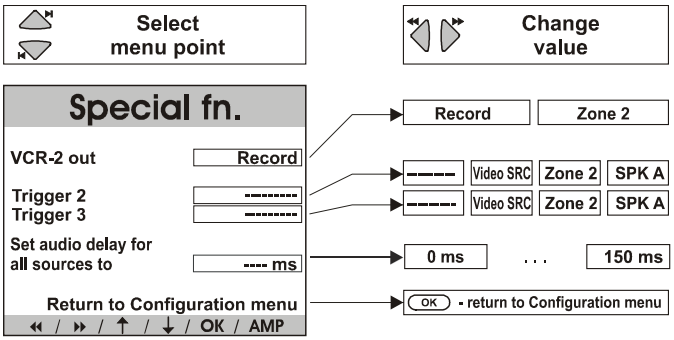
In the last line you can select whether the AUX-P input is to be used for a turntable with MM pick-up system (setting: PHONO) or whether you wish to connect a normal audio device with high output level (setting: LINE) to this input.

MCH-IN

Note:

The Multi-channel input is only active if the MCH-IN surround mode is selected. This mode can only be selected for the source to which MCH-IN is assigned.

Special Functions menu



In the Special Functions menu you can set the following points:

VCR-2 out

Here you can determine whether the VCR2 output is to be used for a second video recorder, or alternatively if this output is to be used to provide sound in a second room (see the '***MULTI-ROOM mode***' menu).

TRIGGER 2 / TRIGGER 3

The back panel of the **SR 1535 R** features control outputs for automation functions. For example, you can use them to control a motorised screen, so that it extends automatically when you select a video source; alternatively the light could be dimmed automatically when you select video operations.

In this menu you can determine which conditions cause Trigger signals 2 and 3 to be generated.

Trigger signal 1 is switched automatically when the device is switched on, and cannot be configured.

If you have queries regarding the automation facilities and how they can be implemented, please ask your local **T+A** specialist dealer or an experienced electrician.

Audio delay for all sources:

The basic sound delay setting (LipSync) is crucially dependent upon the picture delay time of the display device - but it may also vary from one source device to the next. For this reason the **SR 1535 R** can be set to a different sound delay for each source.

To make it easier to set these values, this menu point can be used to set the delay time of the display device as the basic value for all sources. This value can then be altered individually in the Main Menu.

The operating instructions for your display device may state suitable values. If not, the following can be taken as a sensible starting point:

Display device	Sound delay
50 Hz television	0 ms
100 Hz television	25 ms
Progressive Scan Display	min. 40 ms

The FM RDS tuner in the SR 1535 R

Using the Tuner

In order to control the tuner you must first select it as the current listening source. Do this by briefly pressing the source button (TUNER) on the front panel or on the remote control handset (**F1 / F6**). The **bottom line of the screen** now displays the tuner as the current listening source:

The **SR 1535 R** can store a total of 60 station presets (see '***Tuner Menu - PRESET***'). The stored presets include all the relevant settings, i. e. **WIDE / NARROW, MONO / STEREO** etc., as well as the frequency.

When you call up a preset the **SR 1535 R** reverts to the settings which applied when you stored it.

Selecting a preset

Preset select button		
Front panel	**F1 or F6**	
⏮	⏮	Select previous preset
⏭	⏭	Select next preset

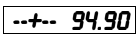
In tuner mode you can select the next stored preset in the 'down' or 'up' direction by briefly pressing a preset select button. The system automatically skips spot memories which contain no information.

Tuning a station manually

Press tuning button briefly		
Front panel	**F1 or F6**	
◀◀	◀◀	Fine tuning (-25 kHz)
▶▶	▶▶	Fine tuning (+25 kHz)

In tuner mode you can fine-tune the frequency by **briefly pressing** one of the tuning buttons. Each press increases or reduces the frequency by 25 kHz. This provides a useful means of centring a station under very difficult reception conditions, or when the station is very weak in any case.

The exact setting can be checked with the centre display (tuning indicator at top left of the screen), e. g.:



The station is correctly set and is being received at best possible quality when the cross symbol is in the centre position.

Initiating a station search

Hold tuning button pressed in for about 1 sec.		
Front pane	**F1 or F6**	
◀◀	◀◀	Station search downward
▶▶	▶▶	Station search upward

In tuner mode, holding a tuning button pressed in **for about 1 second** initiates a station search in the 'down' or 'up' direction. The search stops automatically at the next station worth receiving, and tunes it in accurately. If you now release the tuning button, the tuner stays locked on that station; if you continue to hold it pressed in, the tuner resumes the search process after about 1 second.

You can interrupt the search at any time by pressing the **opposite tuning button** briefly.

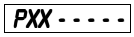
Briefly pressing any **preset select button** re-activates the preset to which you were last listening.

Selecting presets directly (numerically):

If you press one of the numeric buttons on the remote control handset when in Tuner mode, the top line of the screen displays a **' *P* '** or **PRESET**, followed by the number you have just pressed. If you press a second numeric button within a waiting time of about 2 seconds, it is assumed to be the second digit of the preset number. If you don't press a second button, the tuner assumes that the preset you wish to select is a single-digit number.

The preset is activated when you enter the second digit, or when the waiting time has elapsed.

If you call up a preset number (XX) which contains no information, the top line of the screen briefly shows this message:



and then reverts to the station to which you were last listening.

If you call up an invalid preset number (**XX** = number less than 01 or greater than 60), then the top line of the screen briefly shows the message:

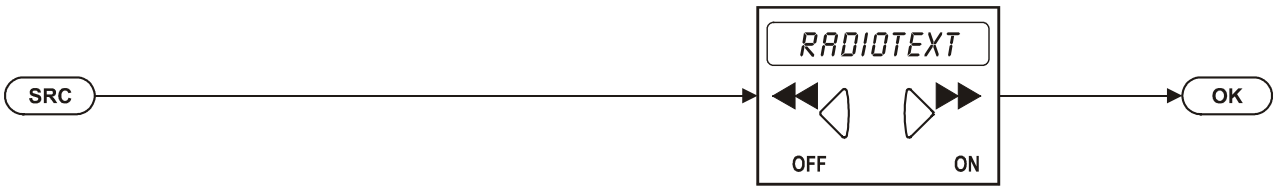
and the currently set frequency; the tuner then again reverts to the last station you selected.

Tuner Menu

The '***Tuner Menu***' provides the means to make individual adjustments to the tuner, such as storing and erasing tuner presets (station settings) - but only if you first select the tuner as the current listening source.

You open the '***Tuner Menu'*** by briefly pressing the remote control button SRC or ◁▷, or the SRC MENU button on the front panel.

Radiotext



To switch the Radiotext display on and off for the currently selected station, first press the buttons in the order stated above. The top line of the screen now shows the message:

RADIOTEXT ,

until a new item of news is displayed.

If Radiotext cannot be received from the set station, the top line of the screen shows the message

NO RTEXT ,

for about one second before reverting to the current station.

If you switch stations, the Radiotext display is terminated automatically.

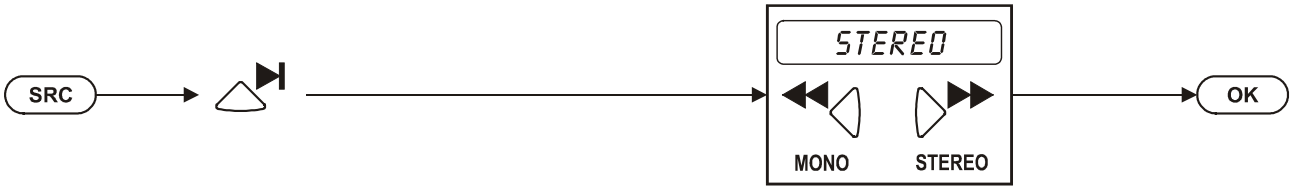
Note:

The **F1** or **F6** remote control handset can also be used to switch the Radiotext display on and off directly in tuner mode:

F1: hold the OK button pressed in

F6: hold the OK button pressed in, or press the 1/2 - button briefly

Stereo / Mono



To switch between **stereo** and **mono** reception, first press the buttons in the order stated above.

The top line of the screen now briefly shows the currently set mode of reception:

MONO or STEREO

The screen also displays the ⚭ symbol constantly when the **STEREO** setting is selected.

If the station is very weak or distant, and can only be received with severe background noise, you should switch to **MONO**. This reduces the hiss markedly.

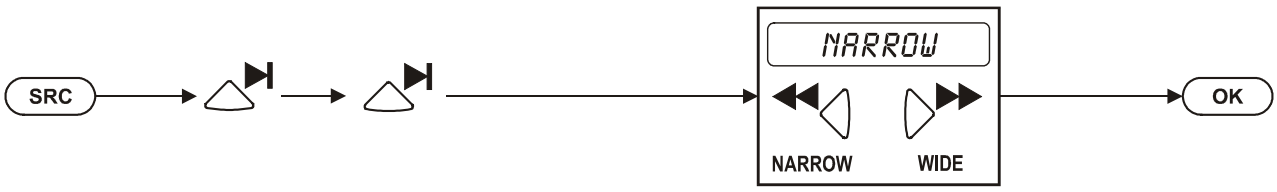
Note:

It is possible to switch directly between mono and stereo reception using the **F1** or **F6** remote control handset. This is the procedure:

F1: press M-PRG button briefly

F6: hold 1/2 button pressed in

Reception bandwidth (Narrow / Wide)



The reception bandwidth can be switched between “narrow-band” (**NARROW**) and “broad-band” (**WIDE**). To change the setting, first press the buttons in the order stated above. The top line of the screen now briefly shows the currently selected reception bandwidth:

NARROW or WIDE

The screen also displays the ◀▶ symbol constantly when the **WIDE** setting is selected.

The default setting of the **SR 1535 R** is narrow-band (**NARROW**). In this setting interference from adjacent stations is suppressed, and excellent reproduction quality is achieved even under difficult reception conditions.

If reception conditions are very good, and if there are no transmitters close to the selected station which could cause interference, then switching to the **WIDE** setting can give even better results in terms of sound quality. The only drawback of this mode is the inevitable reduction in station separation.

If interference becomes audible in the **WIDE** setting, simply switch back to **NARROW**.

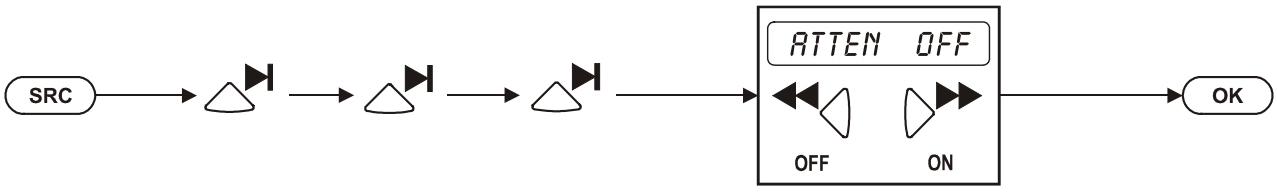
Note:

If you have an **F1** or **F6** remote control handset you can directly switch the reception bandwidth as follows:

F1: press ◀▶ button briefly

F6: press 1/2 button briefly

Aerial attenuator



To switch the integral aerial attenuator on and off, first press the buttons in the order stated above.

The top line of the screen now briefly shows the current setting:

ATTEN ON or ATTEN OFF

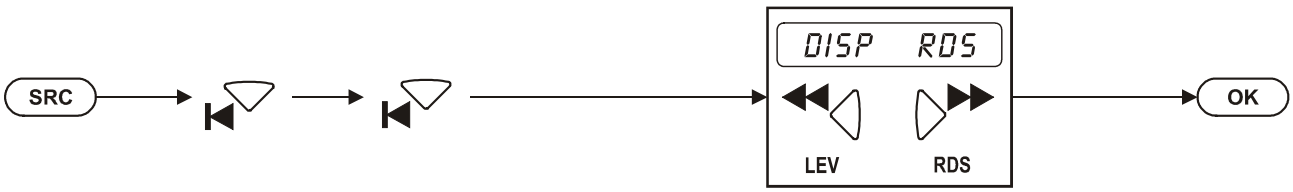
The screen also displays the ≃ symbol constantly when the attenuator is switched on.

If the receiver is tuned to a station which is close to an unusually powerful local transmitter, you may encounter audible intermodulation effects (whistling and twittering). You can avoid this problem by switching on the aerial attenuator.

Note:

If you have an **F1** remote control handset you can switch the aerial attenuator on and off directly in tuner mode by pressing the A button.

Display mode



To switch between **RDS mode** and the **display of transmitter field strength**, first press the buttons in the order stated above.

In the default setting (**RDS**) the top line of the screen initially displays the transmitter frequency and the tuning display after you switch stations.

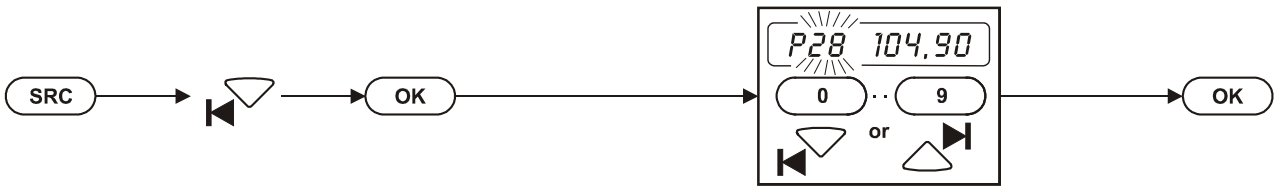
When the station is correctly tuned in, the **RDS** station name appears on the screen after a few seconds, provided that the station you have selected is transmitting **RDS** information.

It is also possible to switch to a field strength display; this is useful for assessing reception conditions, and also for establishing the optimum position of a rotary aerial.

The top line of the screen displays the field strength (**L**evel), e. g.:

The display range extends from 0 ... 25. When the field strength is displayed the screen is always set to normal brightness, over-riding any previously set brightness level.

Preset - manual storing



The tuner can store a total of **60 station settings**. The stored information includes the set reception mode and the RDS station name as well as the frequency. It also includes the RDS station name - provided that the name was picked up in complete form when the preset was stored.

When you call up a preset the tuner reverts to precisely the settings that were in use when the preset was stored.

Before a preset is stored the station must be tuned in accurately; if the RDS station name is slow to appear, you should wait until the complete name appears on the screen, then press the remote control buttons in the order stated above.

The top line of the screen now displays a "**P**" on the left followed by a flashing number and the reception frequency, e. g.:

P28 104,90 **MHz**

The flashing number is the preset number under which the currently selected station is stored.

The preset number can be changed either with the preset select buttons

on the front panel: ⏮ / ⏭

on the remote control handset: ▽ / △

or entered directly using the numeric buttons.

To store the setting under the current preset number you must press the OK button. Instead of the frequency the screen then briefly displays the message:

STORE

This confirms that the preset is stored, and the menu point **MANUAL STORE** is terminated.

If none of the menu control buttons or the numeric buttons is pressed for a period of about ten seconds, the Tuner Menu terminates (time-out) and the screen displays the last station you were listening to.

Notes:

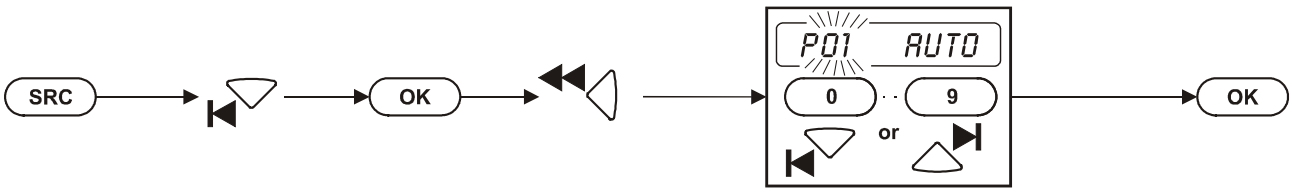
The screen responds to any attempt to store an invalid preset number (XX) by displaying the error message:

PXX ERROR

The receiver then terminates the Tuner Menu.

Many stations transmit the station name as moving script, although this is not in accordance with the **RDS** norm. In such cases you must wait until the station has transmitted its full station name for a long period before you store it.

Preset - automatic storing (Autostore)



In the automatic storage process the tuner automatically searches the entire FM band twice (with different search thresholds), looking for stations which can be received at good quality in Stereo mode, and automatically stores the stations it locates.

This process can take some time, as the tuner attempts to pick up the complete RDS name for each station it finds, and store it with the other data.

If the **Autostore** function does not detect the RDS station name, but the tuner subsequently picks it up when tuned to the preset, then the top line of the screen will then display the station name, and the tuner will store it automatically with the preset.

To initiate the **Autostore** function, first press the buttons in the order stated above.

Now you need to select a preset number which is to be used as the starting point, i. e. the number after which the located stations are to be stored.

This number can be entered either using the preset select buttons:

on the front panel: ⏮ / ⏭

on the remote control handset: ◁ / ▷

or directly using the numeric buttons on the remote control handset.

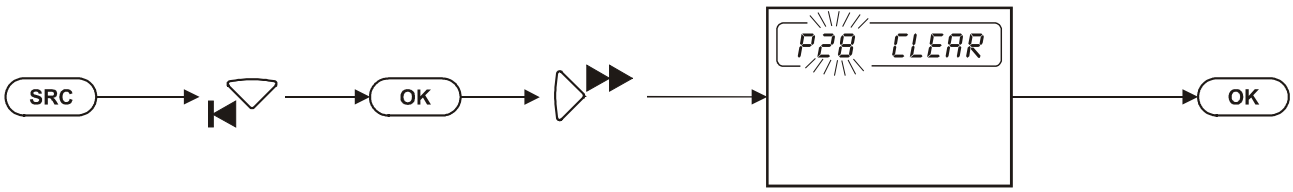
If you wish the presets to occupy the station memory from the first position, select the number 01.

If none of the menu control buttons or the numeric buttons is pressed for a period of about ten seconds, the Tuner Menu terminates (time-out) and the screen displays the last station you were listening to.

Press the OK button to activate the **Autostore** function; the frequency display starts to increment (run upward).

When the **Autostore** function terminates, the screen will again display the station you last listened to.

Preset - erasing presets



Presets which contain stations not worth receiving, or the same stations on different frequencies, should be erased.

Under certain circumstances, e. g. after moving house, it may be necessary to erase all the presets. Please read the section **'*Trouble-shooting - Restoring the works default settings*'**.

In order to erase individual presets first press the buttons in the order stated above. The screen displays a "**P**" at top left followed by a flashing number and the name of the function, e. g.:

P28 CLEAR

The flashing number is the preset number which is to be erased. You can enter the number either using the preset select buttons

on the front panel: ⏮ / ⏭

on the remote control handset: ◁ / ▷

or directly using the numeric buttons on the remote control handset.

If none of the menu control buttons or the numeric buttons is pressed for a period of about ten seconds, the Tuner Menu terminates (time-out) and the screen displays the last station you were listening to.

Press the OK button to erase the preset and terminate the Tuner menu.

Notes

If you attempt to erase an invalid preset number (XX), then the screen briefly shows the message:

PXX ERROR

the Tuner Menu is then terminated.

Since the tuner is unable to decide for you the reception quality of the individual stations, the receiver provides the facility to fine-tune the presets manually which have been stored automatically.

This also applies to stations whose full **RDS** name has not been picked up during the **Autostore** process, or which was transmitted by the station in a non-standard form.

This is done by calling up each preset in turn, and attempting - if necessary - to improve the reception quality by changing the mode of reception.

(Mono / Attenuator)

You then re-store the preset manually; see '***Manual Storing'***.

Presets which contain stations not worth receiving, or the same stations on different frequencies, should be erased.

Frequencies which are already stored will not be stored again if you repeat the **Autostore** process.

Multi-Room operation

The **SR 1535 R** is capable of providing stereo sound to one additional room, e. g. your study or the kitchen, in addition to the main listening room (multi-room mode). In the second room a different source can be selected to that selected in the main room (multi-source mode). **T+A** source devices with the R LINK control system can be remote-controlled from the secondary room. When a video source is used, the video signals from the source can be passed to the secondary room in addition to the sound, i. e. video sources can be exploited to the full in the second room if a television set is present.

Note:

Only one video recorder (VCR1) can be connected to the **SR 1535 R;** the VCR2 sockets are used for the secondary room.

Recording in multi-room operation

If a recording is being made (to VCR1 or TAPE), it is only possible to listen to the running recording in the secondary room; i. e. while the recording is taking place it is not possible to switch to another source.

When the recording is finished, you must switch to secondary room operation again if you wish to operate the system from the adjacent room once more. This is accomplished by holding the REC button on the front panel pressed in.

In other respects the use of the system in the primary room is not affected by its use in the secondary room. In particular, full 5.1 or 7.1 surround operation is possible without restriction in the main room.

To be able to use the **SR 1535 R** as a multi-room machine you require the following accessory items:

- **F6** remote control handset
- E2000 remote control receiver
- Power amplifier (e. g. **T+A A 1230 R**) plus loud-speakers, or active loudspeakers.

Please refer to the chapter ***'Connections, Using the system for the first time' (Wiring Diagrams 7 and 8')*** for details of connecting and wiring the additional components for multi-room operation.

In the ***'Configuration menu – Special Functions section'*** the line **'VCR-2 OUT'** must be set to **Zone 2**.

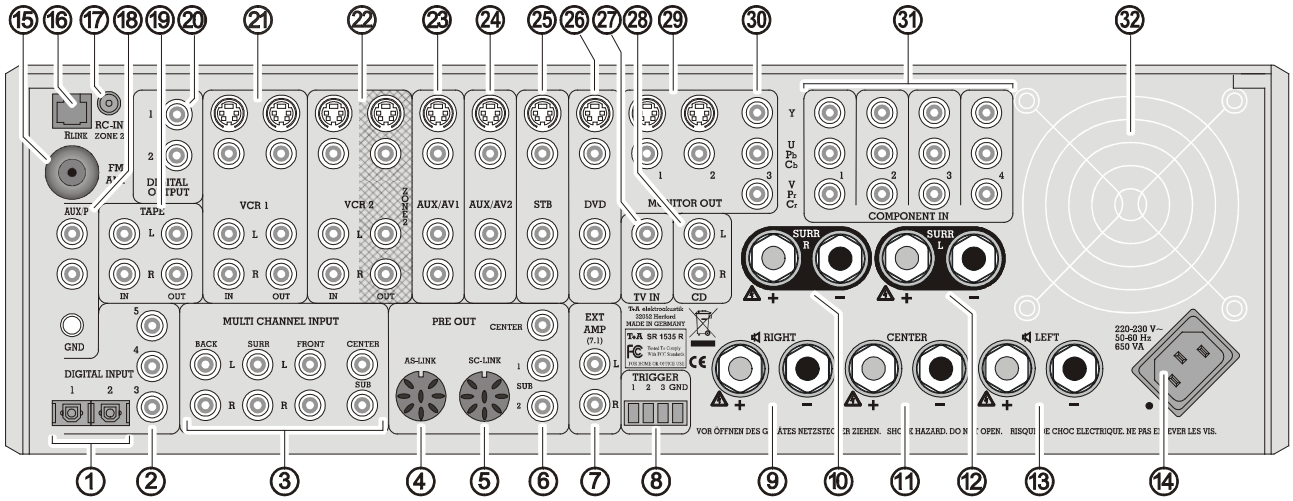
Operating the system from the second room

You can control the system from the secondary room using the **F6** remote control handset in the usual way, using the following buttons:

F6	Function in the secondary room
⊙	Switch device on and off
VOLUME	Rocker for controlling volume in the secondary room
A / B	Switch loudspeakers alternately on and off
CD / DVD … AUX	Source select buttons
PAUSE	Control of the tuner in the **SR 1535 R** and **T+A** source devices
STOP	
0 1 : 9	
▶▶| |◀◀ ◀◀ ▶ ▶▶	
OK	
1 / 2 3 / 4 5 / 6	
SRC	
AMP	no function
DISP	
SRND	

When the recording is finished, you must switch to secondary room operation again if you wish to operate the system from the adjacent room once more. This is accomplished by holding the REC button on the front panel pressed in.

Connections



① DIGITAL INPUT (OPTICAL)

Two inputs for digital source devices with optical digital outputs can be assigned to the AV inputs (VCR, SET-TOP BOX, DVD, TV AUX AV, CAM) or to the Audio inputs (CD, TAPE, AUX/P) (see '***Inputs Menu'***).

② DIGITAL INPUT (CINCH)

The three inputs for digital source devices with co-axial digital outputs can be assigned to the AV inputs or to the Audio inputs (see '***Inputs Menu'***).

③ 5.1 INPUT / MCH INPUT

Input for a surround source with integral decoder. It can be assigned to any AV input or to the Audio inputs (see '***Inputs Menu'***).

④ Active Speaker OUT

Sockets for **T+A** active loudspeakers with **AS-LINK** input. The signal for the front channels or rear channels is present at this output, according to the setting of the ROUTING switch on the bottom of the **SR 1535 R**.

⑤ SUB-WOOFER OUTPUT (CINCH)

Output for connecting a **T+A** active sub-woofer with SC-LINK input.

⑥ 2 sockets for active sub-woofers and 1 PRE OUT CENTER

Output for connecting a active center loudspeaker or an external power amplifier for the center channel.

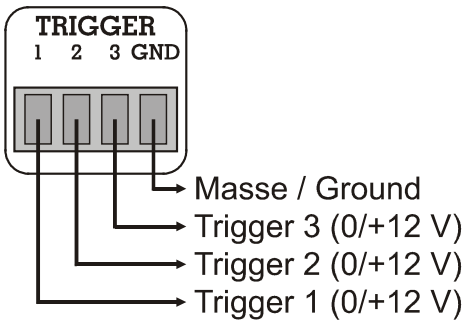
⑦ Sockets for external T+A power amplifier

for front or rear loudspeakers in 7.1 mode

The ROUTING switch on the bottom of the device is used to switch between front and rear channel modes.

⑧ TRIGGER output

Control signals are present at these sockets for automation functions (remote switching of projector, light control, motorised screen etc.) (see **'*Special Functions menu'***).



The output level of the Trigger signals is 12 V. Each output can handle a maximum load of 5 mA.

⑨ (R) and ⑬ (L)

Terminals for front loudspeakers [1)]

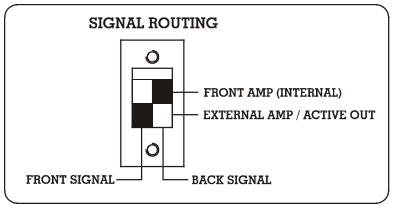
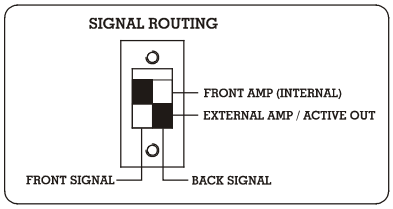
The right and left main loudspeakers are connected to these terminals. In use of an external front power amplifier the back speakers can be connected to these terminals in 7.1 mode. In this case the ROUTING switch on the bottom of the case must be set according to the table below. Loosen the cross recess screws of the detention cover. Then position the routing switches and fix them by mounting the detention cover in correct position. Fix the cover with the two cross recess screws.

Caution!

The detention cover can only be mounted when the routing switches are in correct position.

Note:

See '***Wiring Diagrams 1***, ***1a*** and ***1b***'

Mode of operation	Switch position
7.1 with external front power amplifier	
7.1 with external rear power amplifier 5.1 Normal operations	

⑩ SURR (R) and ⑫ SURR (L)

Terminals for surround loudspeakers [1)]

In a 5.1 system the right and left rear surround loudspeakers are connected here; in a 7.1 system, the side speakers.

⑪ CENTER

Terminals for Centre loudspeaker [1)]

The centre loudspeaker (if present) is connected to these terminals. The speaker is located adjacent to the TV set or screen.

[1)] **Notes:**

The impedance of the loudspeakers connected to the surround receiver should not be less than 4 Ω (DIN rating). The output stages are designed to cope with a minimum load of 2 Ω, but if run for an extended period at very high volume the high currents may cause the output stages to overheat, which would cause the protective circuit to switch them off automatically to prevent damage.

It is important to ensure that the screw terminals are firmly tightened, and that there are no stray strands of wire which could cause short-circuits.

The **T+A** accessory range includes a selection of high-quality cables which are designed to match **T+A** equipment exactly.

Note:

If the loudspeakers are to be used in countries outside the EU the red/black stoppers can be removed from the loudspeaker terminals. The speakers can then be connected using banana plugs.

The stoppers are simply a push-fit in the terminals, and can be prised out from the rear using a suitable tool such as a knife blade.

⑭ Mains input

The mains lead is connected to this socket. Be sure to read the notes in the sections '***Connecting the equipment, using it for the first time'*** and '***Safety Notes'*** before you connect the equipment to the mains supply.

⑮ FM ANT - Aerial input

The **SR 1535 R** features a 75 Ω aerial socket marked **FM ANT**, which is suitable both for a standard domestic aerial and also a cable connection. A high-performance properly installed aerial system is indispensable if you wish to obtain first-class reception quality.

⑯ R LINK

Control outputs for connecting **T+A** devices using the **R LINK** control system. Both sockets are of equal status.

⑰ RC IN (E 2000)

Input socket for the **T+A E 2000** remote control receiver for remote control from an adjacent room (2-zone mode).

⑱ AUX/PH (STEREO CINCH)

Stereo sound input for connecting a disc player with MM pick-up, or a high-level stereo source.

Note:
For high-level MM operation make the appropriate settings in the '***Sound Inputs***' menu.

⑲ TAPE (DIGITAL OUT)

Input / output sockets for connecting a device with recording and playback facilities (e. g. tape recorder, MD recorder etc.).

⑳ Digital OUTPUT

Digital audio signals are present at these sockets for digital recorders or external processors.

Note:
Signals are only present here if a digital source device is in use. The outputs are switched off when an analogue source is in use.

㉑ VCR 1
㉒ VCR 2

Socket for connecting a video recorder with SCART connector.

㉓ AUX AV 1 (STEREO CINCH and VIDEO)
㉔ AUX AV 2 (STEREO CINCH and VIDEO)

Inputs for connecting additional AV devices
(for YUV connections see * **Note**)

㉕ SET-TOP BOX

Sockets for a set-top box
(see '***Wiring Diagram 4***')
(for YUV connections see * **Note**)

㉖ DVD

Sockets for a DVD player
(see '***Wiring Diagrams 3*** and ***4***')
(for YUV connections see * **Note**)

㉗ TV

Sound input for TV set

㉘ CD INPUT

Input sockets for connecting a CD player.

㉙ Monitor OUT

Picture outputs for video monitor (TV set, projector etc.) with Video or S-Video input.

㉚ Picture output (Component Video)

Additional picture output for video monitor with YUV input.

Note:
Here only YUV signals are present which are received via one of the YUV inputs (㉛) . Video signals or S-Video signals from other AV inputs are not present in the **SR 1535 R** standard configuration. In standard configuration for playback of Video / S-Video sources the monitor outputs (㉙) must always be connected to the projector in addition to the YUV connection.

Available as an option: YUV converter module

The YUV converter module converts all Video and S-Video input signals to YUV output signals. If this module is present, all video signals are sent as YUV signals to the monitor and the additonal Video / S-Video cables to the monitor can be omitted. For details about the YUV converter module ask your T+A dealer or distributor.

㉛ YUV Component Video inputs

Each of these inputs can be assigned to one of the source devices (see '***YUV Inputs***' menu).

㉜ fan

SAFETY NOTES

All the components we use meet the currently valid German and European safety norms and standards.

Our production areas are supervised by highly qualified expert staff, and all final production units are checked comprehensively by a fully automated, computer-controlled system to ensure uniformly high quality. We guarantee that our products meet our own specifications to the full.

Please read right through these operating instructions carefully before you attempt to use your new surround receiver. Note in particular the information regarding setting up and operating the equipment, and the safety notes.

The unit must be set up in such a way that none of the connections can be touched directly (especially by children). Be sure to read the information in the section entitled '***Installation'***.

The power supply required for this decoder is printed on the mains supply socket. The unit must never be connected to a power supply which does not meet this specification. If the unit is not to be used for a long period, disconnect it from the mains supply at the wall socket.

Mains leads must be deployed in such a way that there is no danger of damage to them (e. g. through persons treading on them or from furniture). Take particular care with plugs, distribution panels and connections at the surround receiver.

Liquid or foreign bodies must never be allowed inside the case. Mains voltage is present inside the unit, and there is a risk of lethal electric shock. Do not exert undue force on the mains connectors.

Protect the unit from drips and splashes of water; never place flower vases or fluid containers on the unit.

Caution!
The mains button is not a mains isolation switch. Even when the green LED is not glowing, parts of the machine remain connected to the mains power supply. If the decoder is not to be used for a long period, we recommend that you isolate it from the mains by pulling out the mains plug at the wall socket.

This device should never be used without proper supervision. The surround receiver should be set up well out of the reach of small children. This applies to all electrical equipment.

The unit should only ever be opened by a qualified specialist technician. Repairs and fuse replacements should be entrusted to an authorised T+A specialist workshop.

With the exception of the connections and procedures described in these instructions, no work of any kind may be carried out on the surround receiver by unqualified persons.

If the unit is damaged, or if you suspect that it is not functioning correctly, immediately disconnect the mains plug at the wall socket, and ask an authorised T+A specialist workshop to check it.

The unit may be damaged by excess voltage in the power supply, the cable network or in aerial systems, as may occur during thunderstorms (lightning strikes) or due to static discharges.

Special power supply units and excess voltage protectors such as the T+A **'Power Bar'** mains distribution panel offer some degree of protection from damage to equipment due to the hazards described above.

However, if you require absolute security from damage due to excess voltage, the only solution is to disconnect the unit from the mains power supply and any aerial systems.

If you believe there is a danger of excess voltage (e. g. when an electrical storm is building up) disconnect the surround receiver from the mains and the aerial socket.

All mains power supply and aerial systems to which the unit is connected must meet the currently valid regulations, and must be installed by an approved electrical installer.

Note:
Many insurance companies offer lightning damage insurance for electrical equipment as part of their household insurance service.

Approved usage

This device is designed exclusively for reproducing sound and/or pictures in the domestic environment. It is to be used in a dry indoor room which meets all the recommendations stated in these instructions.

Where the equipment is to be used for other purposes, especially in the medical field or any field in which safety is an issue, it is essential to establish the unit's suitability for this purpose with the manufacturer, and to obtain prior written approval for this usage.

T+A equipment which includes a radio or television receiving section must be operated within the stipulations laid down by the Post Office and the Telecommunications authorities in the country in which it is used. This unit may only be used to receive or reproduce those transmissions which are intended for public consumption. The reception or reproduction of other transmissions (e. g. police radio or mobile radio broadcasts) is prohibited.

This device fulfils the currently valid European norms and German technical regulations, and carries the CE symbol as proof of this. Please check that this sticker is in place, as it is your guarantee that the device meets in full the specification applicable to it in terms of electro-magnetic radiation. This means that your device will not interfere with, nor be interfered by, other receiving equipment.

If, in spite of these measures, you encounter reception interference when using your equipment, please contact your local branch of the German Federal Office for Post and Telecommunications (or the equivalent in your country) in the first instance.

The only permissible method of disposing of this product is to take it to your local collection centre for electrical waste.

Care of the surround receiver

Always disconnect the unit from the mains supply before cleaning it.

The surfaces of the case should be wiped clean with a soft, dry cloth only.

Never use abrasive or solvent-based cleaners!
Before switching the unit on again check carefully that no short-circuits exist at the terminals, and that you have not disturbed any connections.

Device approval and conformity with EC directives

In its original condition the unit meets all currently valid German and European regulations. It is approved for use as stipulated within the EC.

By attaching the CE symbol to the surround receiver, **T+A** declares its conformity with the EC directives **89/336/EEC**, amended by **91/263/EEC** and **93/68/EEC**, and **73/23/EEC**, amended by **93/68/EEC** and the national laws based on those directives.

The original, unaltered factory serial number must be present on the outside of the unit, and must be clearly legible. The serial number is a constituent part of our conformity declaration and therefore of the approval for operation of the device.

The serial numbers on the decoder and in the original **T+A** documentation supplied with it (in particular the inspection and guarantee certificates), must not be removed or modified, and must match exactly.

Infringing any of these conditions invalidates **T+A** conformity and approval, and the unit may not then be operated within the EC. Improper use of the equipment makes the user liable to penalty under current EC and national laws.

Any modifications or repairs to the unit, or any other intervention by a workshop or other third party not authorised by **T+A**, invalidates the approval and operational permit for the equipment.

Only genuine **T+A** accessories may be connected to the decoder, or such auxiliary equipment which is itself approved, and fulfils all currently valid legal requirements.

When used in conjunction with auxiliary devices or as part of a system, this unit may only be used for the purposes stated in the section entitled '***Approved usage'***.

FCC Information to the user

(for use in the United States of America only)

Class B digital device – instructions:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different form that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Installation, using the unit for the first time

General notes on setting up the unit:

Carefully unpack the **SR 1535 R** and store the original packing materials carefully. The carton and packing are specially designed for this unit and will be needed again if you wish to move the equipment at any time. Please be sure to read the safety notes in these instructions.

If the unit gets very cold (e. g. when being transported), condensation may form inside it. Please do not switch it on until it has had plenty of time to warm up to room temperature, so that any condensation evaporates completely.

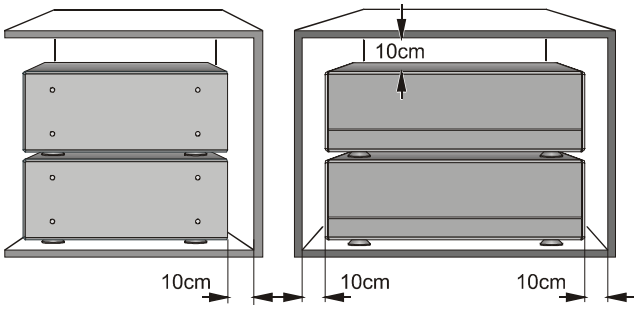
Before placing the unit on a sensitive surface, please check the compatibility of the lacquer and the unit's feet at a non-visible point.

The surround receiver should be placed on a rigid, level base. When placing the unit on resonance absorbers or de-coupling components make sure that they do not compromise the stability of the unit.

The receiver should be set up in a dry, well-ventilated site, out of direct sunlight and away from radiators. The unit must not be located close to heat-producing objects or devices, or anything which is heat-sensitive or highly inflammable.

Any heat build-up will shorten the life of the unit and could be a source of danger.

When installing the unit on a shelf or in a cupboard it is essential to provide an adequate flow of cooling air, to ensure that the heat produced by the unit is dissipated effectively. For this reason there must be at least 10 cm free space **to both sides** and **behind** the units. There must also be 10 cm free space **above** the top unit to the next shelf or cupboard section.



"**R**" series devices dissipate some heat through the case cover. For this reason any devices of a different make must stand on feet at least 2 cm high if they are to be stacked on an "**R**" series **T+A** unit (see drawing alongside).

Notes on connections:

- Be sure to push all plugs firmly into their sockets. Loose connections can cause hum and other unwanted noises.
- Deploy all mains leads, loudspeaker cables and remote control leads as far as possible from low-level leads (inter-connects) and aerial cables. Never route them over or under the receiver.
- Connect the unit to a correctly earthed mains socket using the mains lead supplied.
- To achieve maximum possible interference rejection the mains plug should be connected to the mains socket in such a way that phase is connected to the mains socket contact marked with a dot (●). The phase of the mains socket can be determined using a special meter. If you are not sure about this, please ask your specialist dealer.
- We recommend the use of the 'POWER LINE' ready-to-use mains lead in conjunction with the 'POWER BAR' mains distribution panel, which is fitted with a phase indicator as standard.

As the **SR 1535 R** can be combined with a very wide range of different AV components, it must be configured carefully for each audio / video device in order to achieve optimum sound and picture quality.

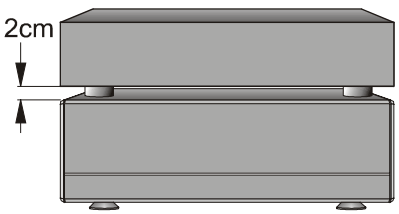
We recommend that you adopt the following procedure when using the surround receiver for the first time:

a. Connect the TV set and the surround speakers to the **SR 1535 R** (Wiring Diagram 1).

b. Wiring Diagrams 3 and 4 show how the various analogue or digital picture and/or sound sources are connected to the **SR 1535 R**.

c. Wiring Diagrams 5 and 6 show how an analogue or digital recorder can be connected to the **SR 1535 R**.

If you encounter problems when setting up and using the decoder for the first time, please remember that the cause is often simple, and equally simple to eliminate. Please refer to the section of these instructions entitled '***Trouble-shooting'***.



Connecting loudspeakers and the TV set to the SR 1535 R:

For important information regarding loudspeaker configurations and modes of operation please refer to the chapter **'*Loudspeaker configurations for the SR 1535 R*'**.

The components of your system should be connected as shown in Wiring Diagram **1**. This is the procedure:

- Connect the front loudspeakers **FRONT RIGHT** and **FRONT LEFT**, the surround speakers **REAR RIGHT**, **REAR LEFT**, and - if present - the **CENTRE** speaker to the corresponding output terminals of the **SR 1535 R**.
- If present, connect the input of the active sub-woofer to **SUB OUT**.
- If present, connect the **E2000** remote control receiver *) to the **RC IN** socket.
- Connect your TV set to the **TV** socket of the **SR 1535 R** using a SCART or S-Video cable.

> *** Note:**
> If your TV set does not feature a SCART socket, use standard S-Video and audio cables. Please ask your local **T+A** specialist dealer for advice on this.

- Connect the aerial input **FM ANT** to a FM aerial socket.
- Finally connect the equipment to the mains power supply and switch the equipment on.

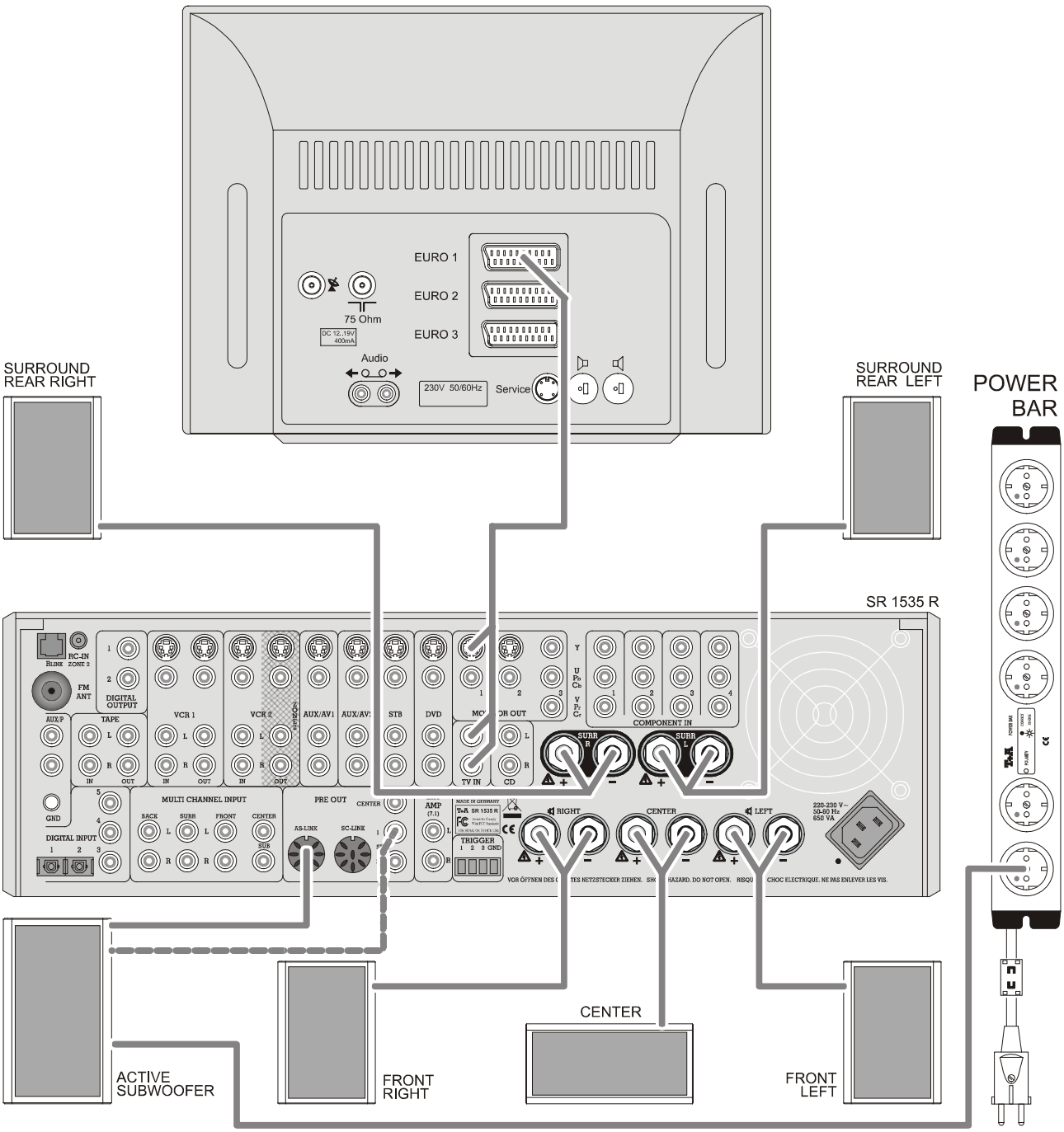
To check the connection between your TV set and the **SR 1535 R** switch your television to the external AV input and temporarily call up the **'*Configuration menu*'**.

This is done by holding the AMP MENU button on the front panel of the **SR 1535 R** or the **F6** pressed in.

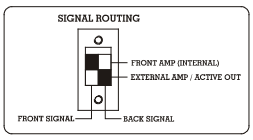
- This is done by holding the AMP MENU button on the front panel of the **SR 1535 R** pressed in.

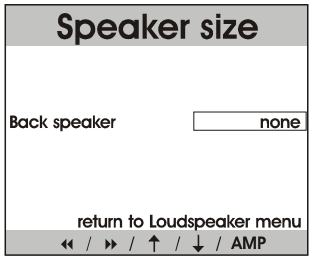
If this menu does not appear, the screen shows monochrome picture or the picture is unstable, please read the section **'Trouble-shooting'**.

Wiring Diagram 1: connecting the loudspeakers and TV set to the SR 1535 R
5.1 Loudspeaker Set



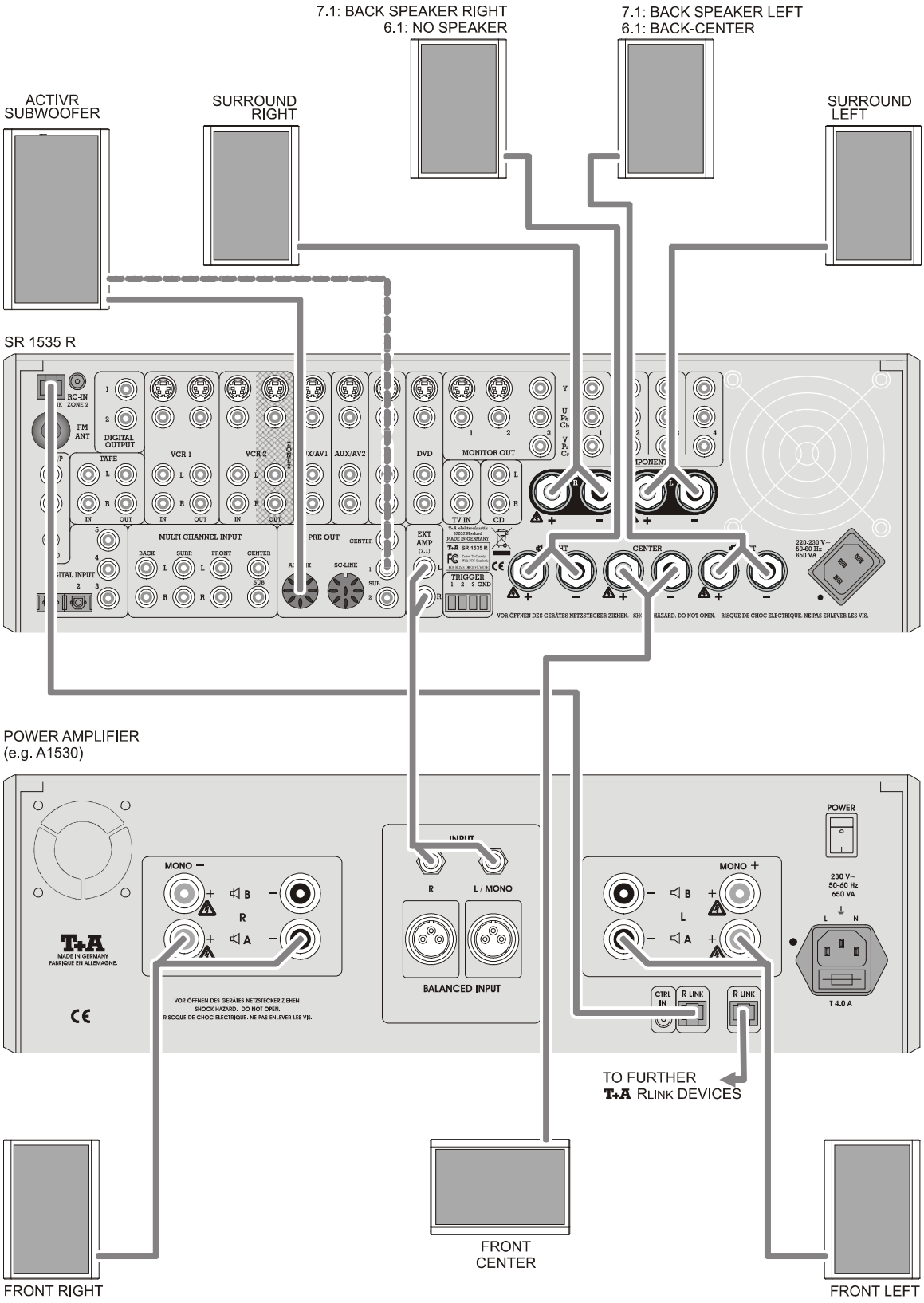
Setting of the Routing switch (on the case bottom):



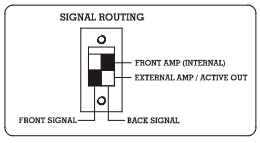


Use of banana plugs: see the section entitled '***Back panel connections***'.

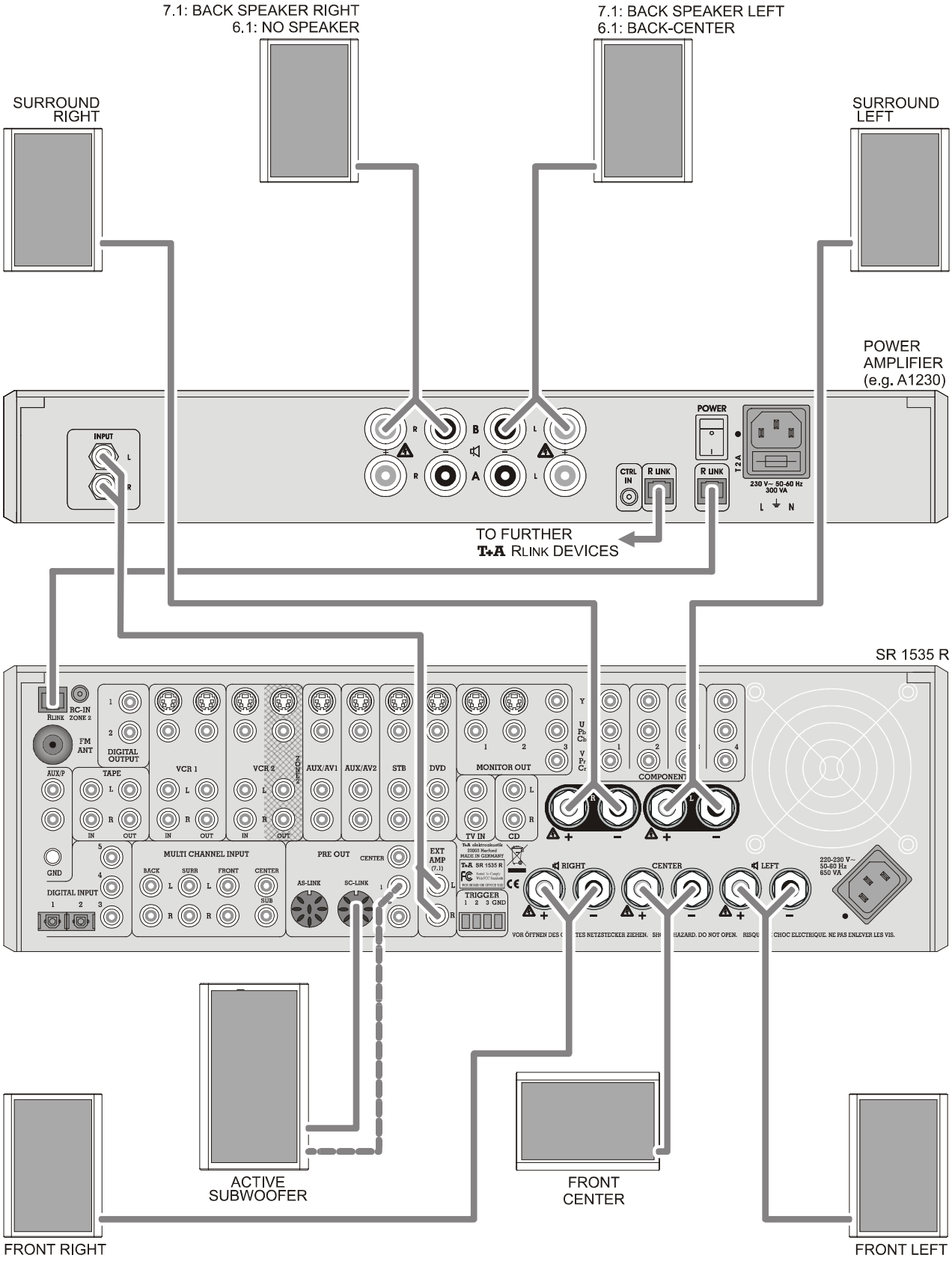
Wiring Diagram 1a: 7.1 system with external power amplifier for front loudspeakers



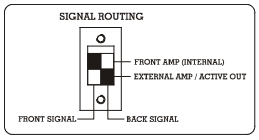
Setting of the Routing switch (on the case bottom):



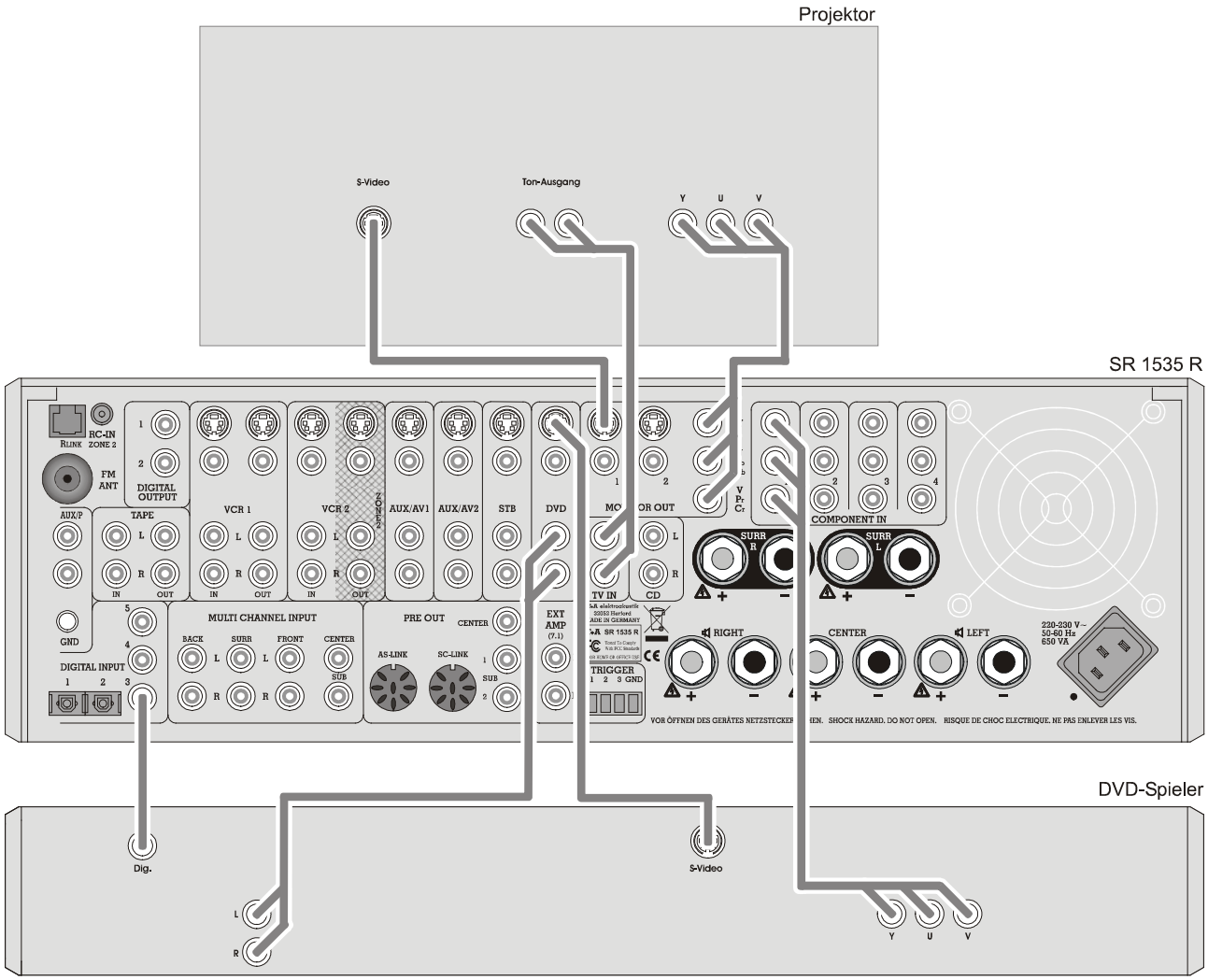
Wiring Diagram 1b: 7.1 system with external power amplifier for rear loudspeakers



Setting of the Routing switch (on the case bottom):

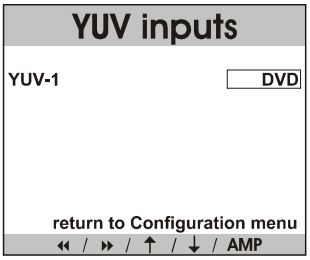


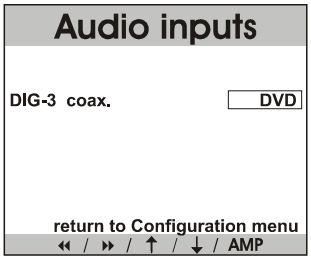
Wiring Diagram 2: video monitor with additional Component input



*1) additional Component cable for high-quality picture reproduction - select the YUV input on your projector when using DVD (this may have to be done manually if your projector does not feature automatic input signal detection).

*2) S-Video connection required for video recorder recording and, if required, picture reproduction in Zone 2.





DVD player as digital sound and picture source (with additional high-quality audio connection)

The components of your system should be connected as shown in Wiring Diagram 3. This is the procedure:

- Connect the digital **SURROUND** sound output of the DVD player to the digital input (**DIGITAL INPUT 3**) of the **SR 1535 R** using a co-axial digital lead.

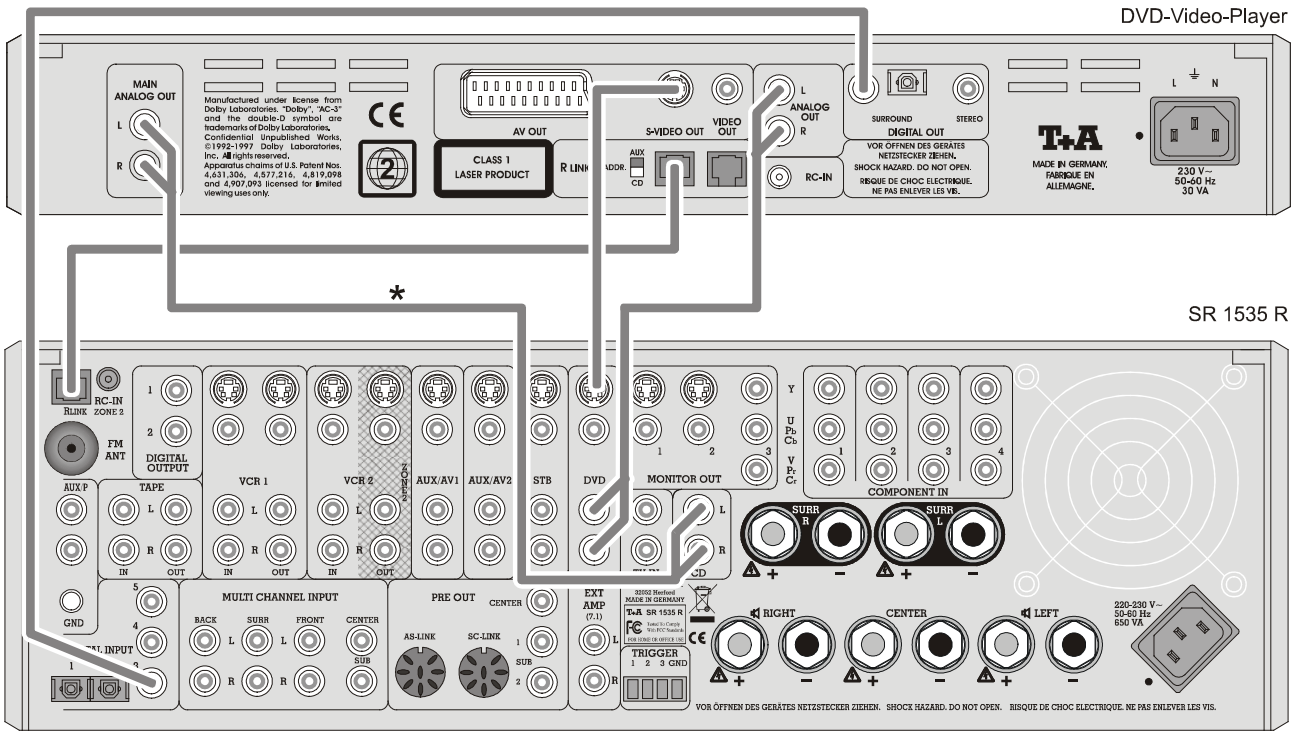
> **Notes:**
> - Be sure to set the digital output of your DVD player to surround mode.
> - If the digital output of your DVD player is set to "**PCM**", the DVD player will only generate a digital stereo signal. In this mode the **SR 1535 R** cannot carry out any surround decoding!

- Use an audio cable to connect the Analogue OUT sockets on the DVD player to the DVD sound inputs of the **SR 1535 R**.
- If the DVD player is also required to operate as a CD player (e. g. **DVD 1230 R**), connect its high-quality analogue output to the **CD** input of the surround receiver. Take care to maintain the correct channel assignment (**L** to **L, R** to **R**)!
- Use an S-Video cable to connect the **S-Video OUT** sockets on your DVD / CD player to the **S-Video IN DVD** socket of the **SR 1535 R**.
- Connect the **R LINK** socket of the DVD player to the **R LINK** socket on the surround receiver; if this is occupied by another source device, connect the lead to the vacant **R LINK** socket on the other source device.
- Locate the **R LINK ADDR** switch on the back panel of the DVD player and move it to the **CD** position.
- Finally connect the equipment to the mains power supply and switch the system on.
- **Settings in the '*Inputs Menu*':**
  The digital sound signal of the DVD/CD player is connected to the co-axial (Cinch) digital input **DIG-3** on the **SR 1535 R**; to allow for this you should add the name **DVD** as a suffix to **DIG-3** - this is the factory default setting.

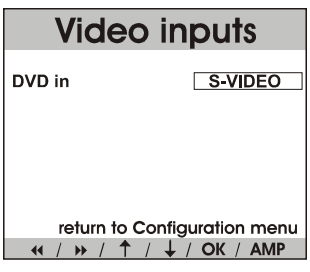
Selecting the source device CD or DVD in normal use:

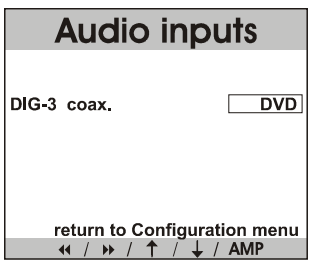
- The source button (CD) on the front panel selects the DVD/CD player as current **stereo source device** for CD playback.
- The source button (DVD) on the front panel selects the DVD/CD player as the current **surround viewing and listening source**. In this mode a DVD can be played back in **surround mode**.
- The remote control button (CD / DVD) switches between the **stereo source 'CD'** and the **surround viewing and listening source 'DVD'**.

Wiring Diagram 3: a T+A DVD/CD player (DVD 1230 R) connected to the SR 1535 R

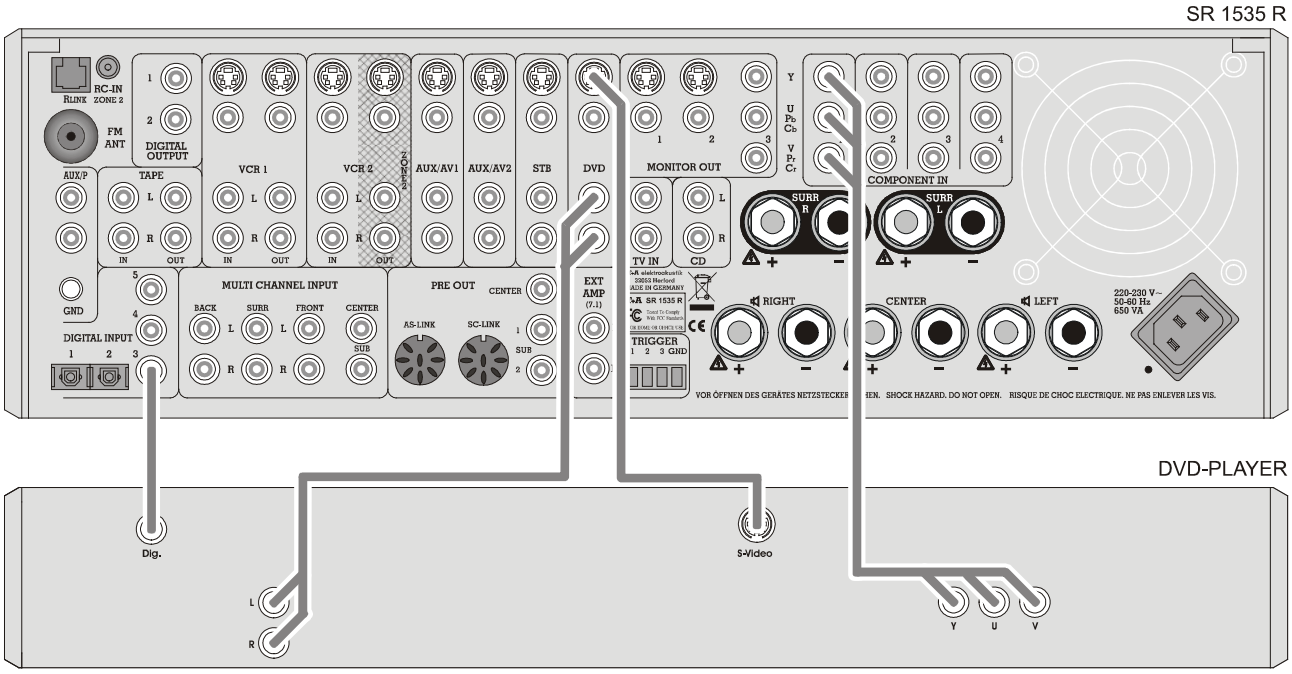


(*) additional connection for high-quality CD playback (stereo)





Wiring Diagram 4: a DVD player with YUV Component Video output connected to the SR 1535 R



Video inputs

DVD in — S-VIDEO

return to Configuration menu

◄◄ / ►► / ↑ / ↓ / OK / AMP

YUV inputs

YUV-1 — DVD

return to Configuration menu

◄◄ / ►► / ↑ / ↓ / AMP

Audio inputs

DIG-3 coax. — DVD

return to Configuration menu

◄◄ / ►► / ↑ / ↓ / AMP

Set-top box (SAT-Receiver)

The components of your system should be connected as shown in Wiring Diagram 5. This is the procedure:

- If the set-top box features an optical digital sound output, connect it to the digital input (**DIGITAL INPUT 1** or **2**) of the **SR 1535 R** using an optical cable.

> **Note:**
> Set-top boxes with a co-axial digital output can be connected to one of the (Cinch) digital inputs 3 . . . 5.

- Use an **S-Video** cable to connect the **S-Video** sockets on the set-top box to the **S-Video** input sockets of the **SR 1535 R**.

> **Note:**
> Instead of a set-top box, any other AV source device can also be connected to the **SETTOPBOX** input in the same manner.
>
> If the set-top box only features SCART connections, please use a SCART / S-Video adaptor cable to connect the system components.

- Finally connect the equipment to the mains supply and switch the system on.

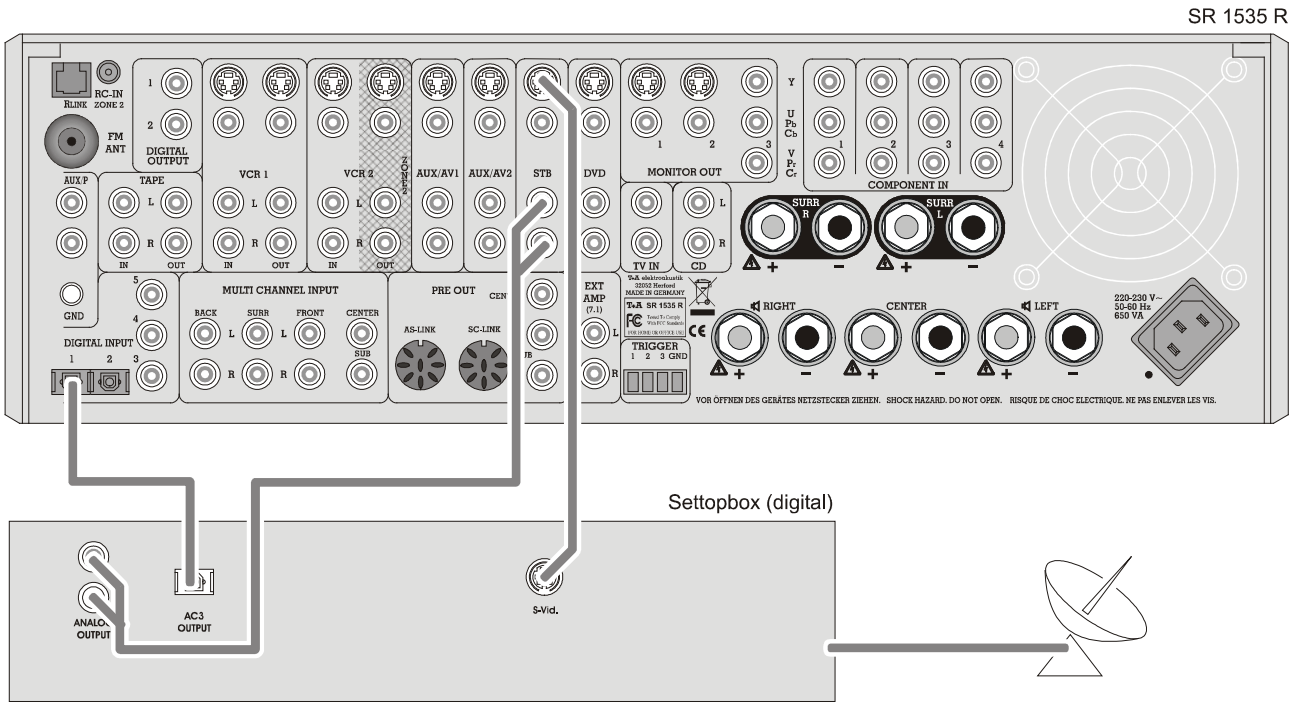
- Settings in the '***Inputs Menu***':
  The digital sound signal of the **set-topbox** is connected to the optical digital input **DIG-1** on the **SR 1535 R**; to cater for this you should add the name **STB** as a suffix to **DIG-1.**
- In the '***Video Input menu***' select the type of video signal (in this case S-Video) for the appropriate input.

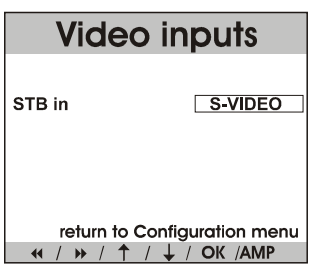
Selecting the source device settopbox in normal use:

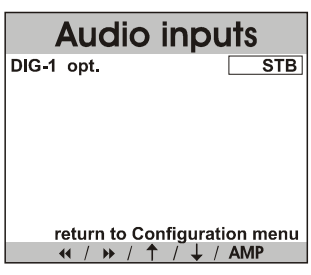
- The source button (STB) on the front panel or the remote control button of the same name selects the **settopbox** as current **surround viewing and listening source**.

> **Note:**
> You can switch temporarily between the analogue SCART sound input (**settopbox**) and the assigned digital sound input by pressing the (ANALOG/DIGITAL) button on the front panel.
>
> The setting you select is not stored. A **D** symbol is displayed on the screen to indicate that the **digital input is switched on**.

Wiring Diagram 5: a set-top box (digital sound and analogue picture source) connected to the SR 1535 R







Recorders (audio devices with record and playback facilities)

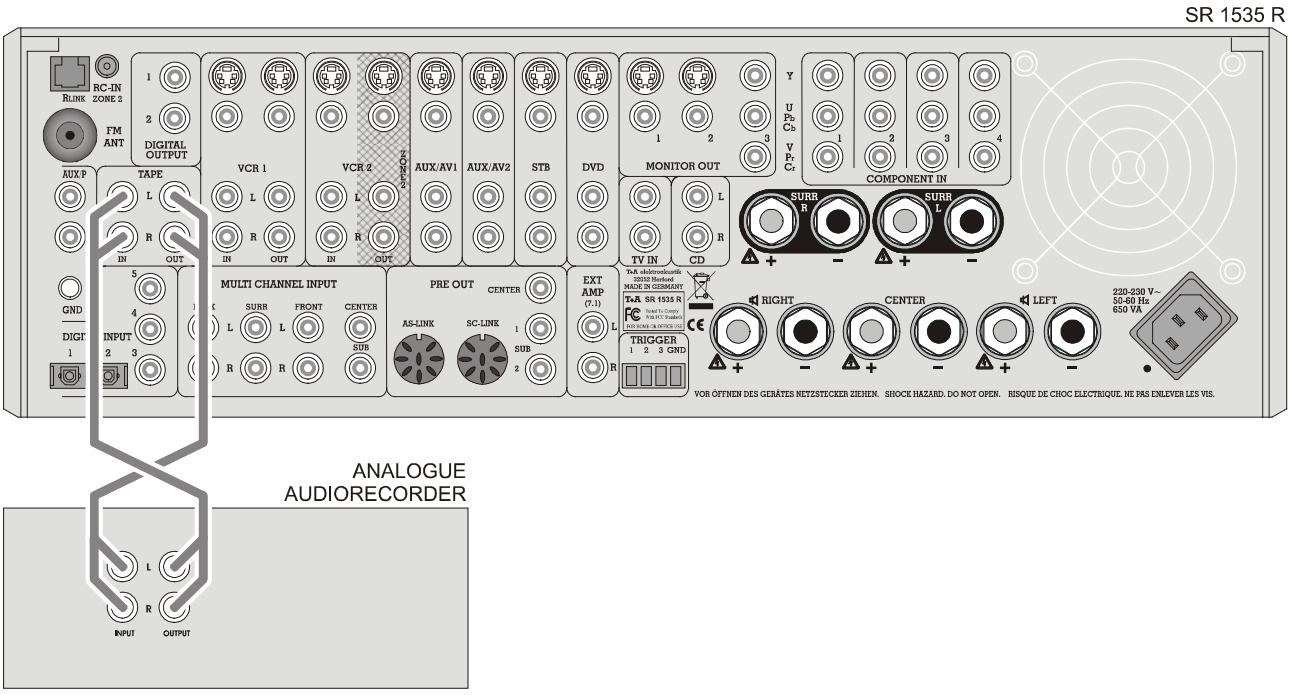
Analogue recorders

The components of your system should be connected as shown in Wiring Diagram. This is the procedure:

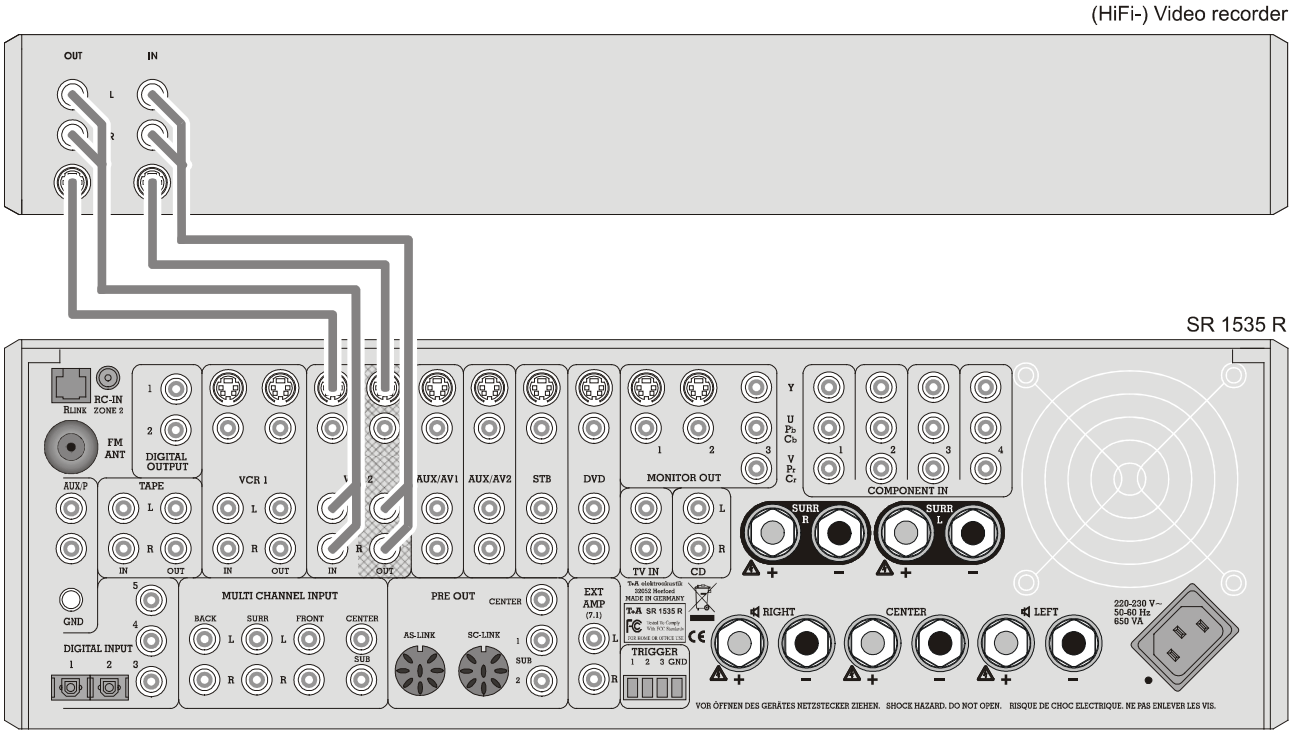
- Connect the **INPUT** sockets of the recorder to the **OUT** sockets (e. g. **TAPE 1**) of the **SR 1535 R**, and the **OUTPUT** sockets of the recorder to the **IN** sockets (e. g. **TAPE 1**) of the **SR 1535 R**. Take care to maintain the correct channel assignment (**L** to **L, R** to **R**).

Notes:
It is only possible to record from sources whose analogue sound outputs are connected to the **SR 1535 R**. If you are using a device with a digital sound output, please be sure to connect the analogue sound output to the input sockets of the **SR 1535 R** at the same time.

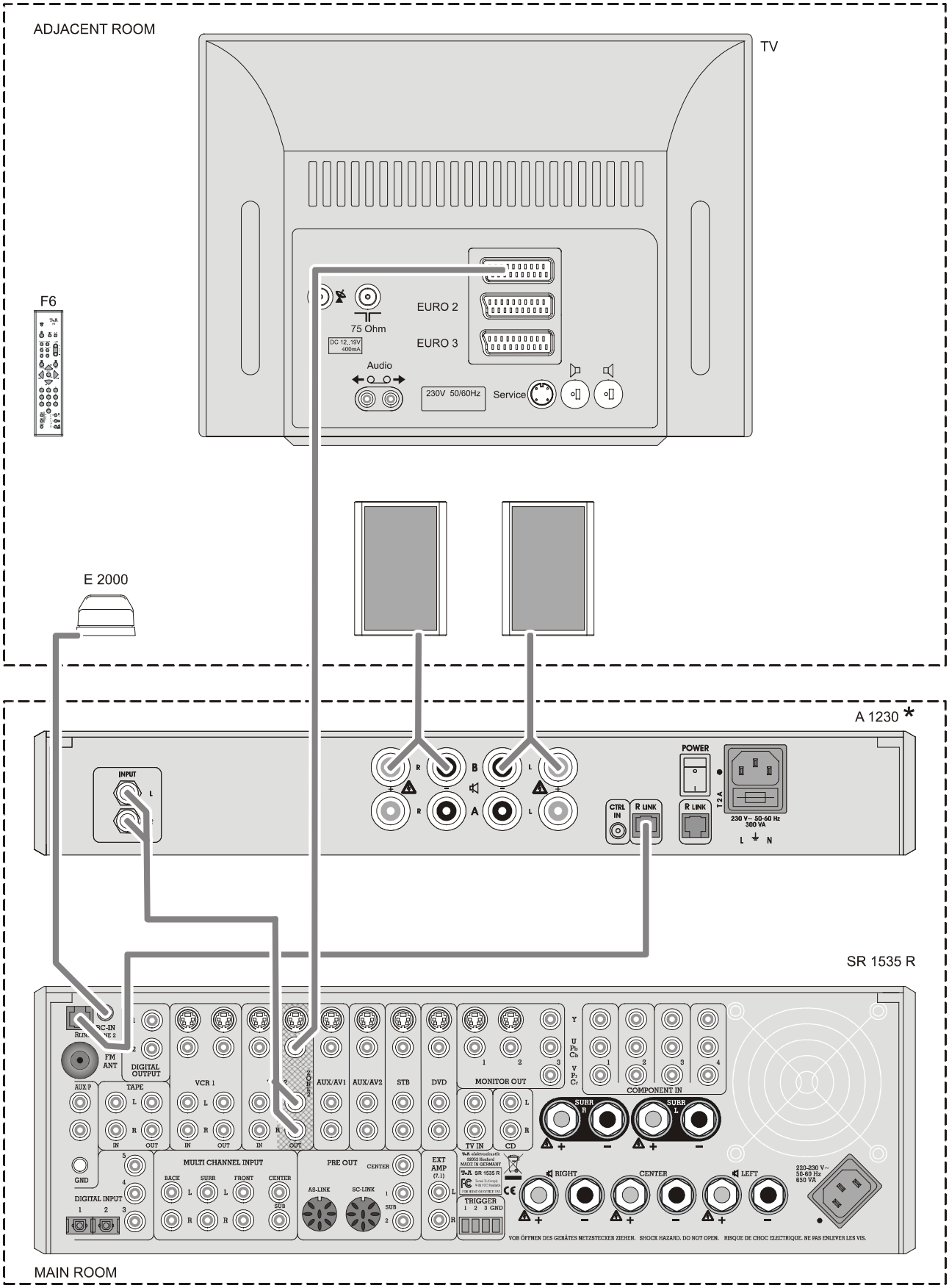
Wiring Diagram 6 a: An analogue audio recorder connected to the SR 1535 R



Wiring Diagram 6 b: An video recorder connected to the SR 1535 R

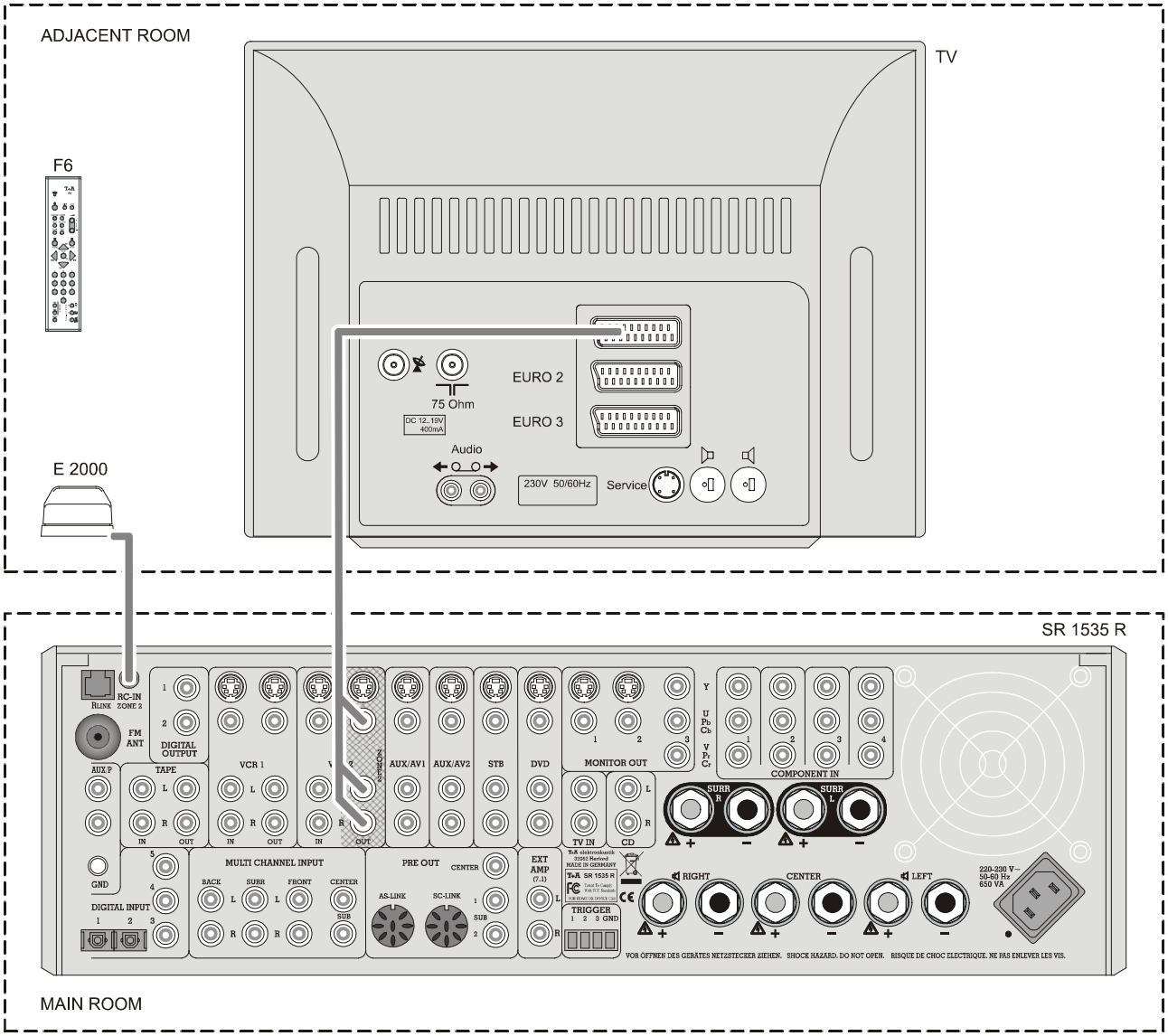


Wiring Diagram 7: multi-room mode with the SR 1535 R



Alternative: active loudspeakers instead of an external power amplifier

Wiring Diagram 8: multi-room mode with the SR 1535 R



Note:
Picture and sound signals can also be transferred to adjacent rooms using wireless radio links, or alternatively via the household aerial system with the help of a modulator. Please ask your local specialist dealer or installer for advice.

Optimising the system

Loudspeaker and signal leads

The loudspeaker and signal leads used affect the playback quality of the entire system to an extent which should not be underestimated. **T+A** therefore recommends the use of high- quality leads and connecting plugs.

Our range of accessories includes a series of excellent leads and plugs possessing characteristics which have been matched to our loudspeakers and electronic components and which combine with them to give outstanding results.

If the space for the player is inconvenient or restricted, you will also find leads of non-standard lengths and special plugs (e. g. angled) among the **T+A** accessories with which almost any connection or setting-up problem can be satisfactorily resolved.

Mains leads and filters

Apart from supplying the necessary power for your video/audio equipment, the mains electricity system can also cause interference from domestic appliances, radios and computers situated elsewhere in the home.

To prevent electromagnetic interference, our range of accessories includes the specially shielded **POWER FOUR** mains lead, the **POWER LINE** mains lead with sleeve core filters and the **POWER BAR** multiple socket outlet with mains filters. In many instances, the playback quality of our equipment can be further enhanced with these accessories.

Your **T+A** dealer can provide you with comprehensive, expert, non-obligatory advice on all matters associated with leads and connections. We can also supply comprehensive informative material on this subject on request.

Physical insulation

Tone quality is influenced to a considerable extent by the type of surface and underlying support on which sophisticated HiFi instruments are placed.

As far as possible, the surface should be strong, stable, rigid and level. The player is fitted with the newly developed **T+A** insulating feet which possess internal cushioning and thus effectively insulate the player from the surface on which it stands.

Note:

The screw-type feet can be tightened or eased off if it is necessary to compensate for irregularities in the surface when levelling the player.

The player must be adjusted in such a way that it is level in all directions. All the feet must rest securely on the surface, i. e. the player must not rock.

Surround sound - explanatory notes

General information:

The following section is not concerned directly with the operation of your **SR 1535 R** decoder, but is rather intended to explain some of the terms which arise in connection with surround systems. It is intended to help you understand and exploit the facilities and capabilities of your **SR 1535 R** to the full. As we all know, a normal stereo recording has two channels - left and right. When stereo material is reproduced in your listening room, the entire sound event takes place on an imaginary stage which covers the space between the two loudspeakers.

The listener is able to locate specific sound events over the width of the stage; with good recordings there is also a slight impression of depth, i. e. behind the speakers. Nevertheless, normal stereophonic reproduction always leaves the listener isolated from the event.

As a result it is impossible to recreate the excitement of a live atmosphere, as in a real concert hall, since the acoustics of the concert hall are crucially influenced by sound reflections from the side and back walls, the floor, the ceiling, and from objects inside the hall.

The reflected sound comes from any number of directions - not just from the front. If a sound event is to be reproduced with real fidelity, it therefore follows that a proportion of the sound must emanate from all directions in the room, that the “reflections” must be timed accurately, and that they must be generated at a realistic level.

Reproducing television sound via a conventional stereo system is problematic, because it is often impossible to locate dialogue on the screen itself.

A further point is that exotic sound effects have been in use in the cinema since the 1950’s, using proper multi-channel sound systems. These effects are often crucial to the overall impact of a film, but they cannot be reproduced at home with a conventional stereo sound system.

Over the last few years surround technologies have been developed which make it possible to experience all these effects within the listener’s own four walls, with the result that a far greater simulation of reality is possible than with conventional stereo.

For an effective surround system we always recommend the installation of a centre loudspeaker, which is installed below or directly above the TV set. This loudspeaker helps greatly in locating particular sound events (especially dialogue) on the TV screen itself.

Types of reproduction

The **SR 1535 R** makes available a range of different types of reproduction: **multi-channel mode, mono/stereo mode** and **sound fields.**

The surround receiver ‘remembers’ the setting for each input, and reverts to the mode of operation which was last used for that input when you switch to it from another input.

Multi-channel mode (surround):

Mode of operation for the reproduction of multi-channel programmes (e. g. DOLBY Pro Logic II, DOLBY DIGITAL, dts, etc.)

Digital multi-channel signals are detected by the encoding methods employed, and the surround receiver automatically sets the correct loudspeaker assignment. The current reproduction mode is displayed on the front panel screen.

For **analogue** input signals the correct mode of operation cannot be detected automatically by the decoder. In this case the surround receiver always reverts to Dolby Pro Logic II decoding. If the signal is actually in a different form (stereo, mono - see below), then the mode must be set manually instead of surround mode.

Dolby Pro Logic IIx Surround

In this process several independent signal channels (left, centre, right and surround (rear)) are recorded using two channels and a special encoding process. Since this process only requires two recording channels, it is compatible with many picture / sound systems which are already widely in use (CD, video recorder, TV etc.).

The information is decoded at playback time and reproduced in the listening room via up to seven loudspeakers. Dolby Pro Logic encoded material is currently available mainly in the film and video arena, recorded on video cassettes and DVDs, but a large number of television programmes are now being produced and transmitted using Dolby Surround.

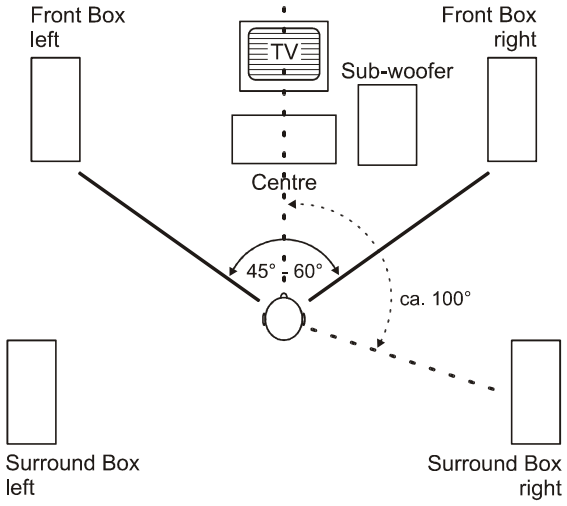
DTS Neo:6

The **DTS Neo:6** process can be used both for encoded stereo material (see Dolby Pro Logic II Surround) and also for un-encoded stereo material.
The Neo:6 decoder generates – according to setting - up to 6 channels (left, centre, right, 2 x side, back centre) from this; the back centre channel can also be reproduced by 2 separate speakers if they are available.

Dolby Digital is a digital multi-channel surround system which was developed specifically for spatial sound reproduction in connection with cinema films. The process utilises five separate sound channels: three front channels (left, centre, right) and two surround channels. A sixth independent bass effect channel is also present, catering for low frequency effects (**LFE**). That is why such systems are said to offer **5.1** channels.

In comparison with Dolby Pro Logic II, Dolby Digital provides two independent surround channels which generate genuine spatial stereo sound, offering the same realistic stereo reproduction as provided by the front channels.

The integral Dolby Digital decoder provides the means of obtaining a genuine digital Dolby stereo cinema presentation in your own living room. The discrete digital recording process and the five playback channels guarantee a very wide dynamic range and accurate spatial orientation.



The dynamic range is the difference in volume between the quietest and loudest passages of a recording. The original soundtrack of a film generally features an extremely wide dynamic range which the surround receiver can reproduce in full.

Unfortunately not all listening rooms, and not all times of day, are suitable for exploiting the full dynamic range. For example, it may be necessary to take your neighbours' feelings into account - especially in the late evening hours.

For this reason it is possible to reduce the dynamic range of Dolby digital encoded sound sources in such a way that quiet passages (e. g. whispered conversations) are reproduced somewhat louder, while loud passages (e. g. massive explosions) are reduced in volume slightly (see '***Main Menu'***).

dts Digital Surround

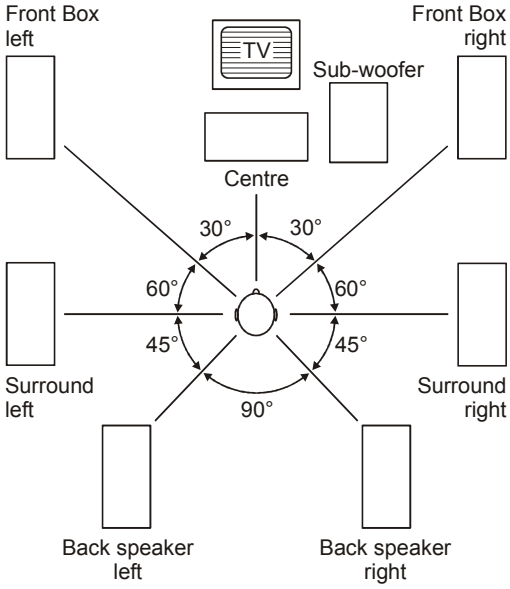
The "**dts**" multi-channel film sound system was originally developed to replace analogue film soundtracks, using digital recordings consisting of six discrete channels. This system has now been further developed to provide spatial sound reproduction in the home situation.

The six channels (**5.1**) are encoded / decoded in original quality, i. e. with 20-bit resolution, and recorded using only slight data compression. The 5.1 loudspeaker configuration, currently the standard arrangement for home cinema systems, is ideal for playback.

Dolby Digital Surround EX

Dolby Digital Ex is an expansion of the Dolby Digital process. In order to optimise the spatial reproduction further, the surround speakers are set up to the sides of the listening position, and supplemented by one or two additional back loudspeakers. (If 2 back speakers are used, both of them reproduce the same signal.)

Dolby Digital EX generates six full-range channels from the 5.1 signal. This is achieved by a matrix decoder which produces a third surround channel from the two surround channels of the 5.1 signal. Dolby Digital EX works best with film and sound material encoded with extra Dolby Digital EX.



dts ES / discrete

DTS ES is an expansion of the dts digital surround process. The surround loudspeakers are supplemented by back speakers in a similar way to Dolby Digital EX. The sound signal is produced during the decoding process from the surround channels by means of an additional stage.

In contrast, **DTS ES discrete** produces the sound channel for the back speakers from a sixth channel which is recorded completely separately.

STEREO / MONO mode:

Stereo mode for **stereo** reproduction

Note:
A multi-channel signal is converted into a stereo signal (downmix), and reproduced via the main left and right loudspeakers.

Mono mode for mono reproduction

All channels are mixed down onto the Centre loudspeaker *)

Mono I mode for two-channel TV sound

Generally **Channel I** transmits the synchronised sound. The signal from Channel I is reproduced via the Centre loudspeaker *); **Channel II** (original sound) is suppressed.

Mono II mode for two-channel TV sound

Generally **Channel II** transmits the original sound. The signal from Channel II is reproduced via the Centre loudspeaker *); **Channel I** (original sound) is suppressed.

Notes:

*) If no Centre speaker is present (see '***Loudspeaker Menu'***), the Centre channel is mixed onto the left and right main speakers.

Not all signal sources (DVDs, CDs etc.) which are encoded with Dolby Digital or DTS Digital Surround contain the full 5.1 information. Even if the screen indicates that a channel is present, that does not necessarily mean that sound signals will constantly be present at that loudspeaker.

In every mode of reproduction signals can be made available on the sub-woofer channel, depending on the loudspeakers selected in the '***Loudspeaker Menu'***.

Sound field simulation

The surround processes already described require programme material which is encoded using the appropriate system, but the **SR 1535 R** also offers a facility to enhance the spatial effect available with conventional unencoded stereo recordings (CD, MC, FM radio etc.).

These **sound field simulations** are based on an accurate analysis of the room acoustics of a number of popular room and hall types.

The digital signal processor of your decoder is capable of simulating and reproducing the characteristic sound of these venues.

For example, if you select the **HALL** setting while watching a rock concert on television, you will have the illusion of sitting in the middle of the audience.

Please note that it is important to set the sound field which is appropriate for the material to which you are currently listening. It makes no sense at all to select a sports stadium if you intend listening to a concert of chamber music, or an intimate club atmosphere for a rock concert.

Your **SR 1535 R** can generate the following sound fields:

Disco

This sound field is particularly suitable for providing an even spread of sound over a dance area. The sound signal is reproduced with equal power by the main and surround loudspeakers, without echo or delay. The strongly concentrated sound produced in this way generates an immediate, energy-charged atmosphere which is a great choice for any party.

Note:
With the Dolby Digital EX / DTS ES decoder the signal is also reproduced by the centre and back speakers.

Hall

A resonant concert hall with reflections from all directions. Ideal for reproducing a large orchestra, or the live atmosphere of a large rock concert hall - an excellent choice for highly dynamic rock music.

Theatre

This program combines the complete spectrum of clear voice reproduction with the full sound reproduction of an orchestra, without any unnatural echo. For better orientation the room sound is restricted slightly towards the rear.

Stadium

Sound image with a narrow presence in the front region. Commentators and dialogues are localised on the screen. The rear resonance provides the impression of the public in the stadium. This sound field is also suitable for TV shows and music transmissions.

Club

The characteristic cellar jazz club atmosphere, with a pattern of sound reflection which is dominated by large floor and wall surfaces. Also good for simulating small halls.

Church

Simulation of the acoustic conditions of a large church with a long resonant period. This sound field is the perfect choice for sacred organ music.

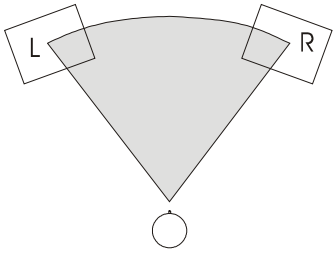
MCH-IN

If the MCH-IN input is assigned to the active source. In this case the sound signal of the Multi-channel input is used.

Dolby Headphone

Dolby Headphone is a system which provides a form of spatial sound image even with conventional stereo headphones.

Method of working:



When a stereo signal is reproduced via two loudspeakers set up in front of the listening position, the listener perceives the music to be spread out over the area between the right and left speakers, rather than directly from the two loudspeakers themselves.

The sound image appears in this way because of sound reflections: the sound from the front speakers reaches the ears directly, but is also reflected around the room, and by the listener's shoulders and head.

The effect is amplified by the fact that the sound from the right-hand speaker reaches the left ear as well as the right ear (and vice versa), albeit with a slight delay.

The net result of these two processes is that it is possible to locate individual sound sources spread out across the front of the listening area.

If we attempt to reproduce the same signal using conventional headphones, the sound from each channel reaches the associated ear of the listener, but not the opposite ear. Furthermore the reflections in the room and the shoulder area of the listener simply do not occur.

The result of this is that the music reaches the listener directly from right and left, and therefore seems to come from inside the head rather than being spread out in front.

This is the reason why many people find headphone listening an unnatural experience.

Dolby Headphone is a process by which the music signal is processed to simulate the characteristics of music reproduction in a normal room; the result is that an approximation of the usual listening experience is possible even using headphones.

Dolby Headphone goes even further than this, and incorporates the rear channels which are present in 5.1 / 7.1 material, providing a genuine cinema-like atmosphere even with conventional stereo headphones.

Three different types of room can be selected, so that the listener can match his or her personal preference to the type of music signal being reproduced:

- DH1 (reference room): small room with pronounced acoustic damping;
- DH2 (living room): small room, but with less pronounced damping;
- DH3 (large room): larger room with more diffuse sound distribution.

Loudspeaker configurations for the SR 1535 R

The **SR 1535 R** features a digital decoder which is capable of decoding all sound formats currently in use. The output can be via a stereo speaker pair, a three-channel (stereo + centre) set or a 5, 6 or 7-channel surround loudspeaker set.

Regardless of the loudspeaker configuration you use in your home, the **SR 1535 R** ensures that no recorded sound information is ever lost.

For example, if a 6.1 recording is played back using a 3.0 loudspeaker set (front left, front right, front centre), the **SR 1535 R** mixes the rear channel information onto the loudspeakers which are actually present, maintaining correct levels and phase. The information of the LFE (Low Frequency Effects) channel, i. e. of the 1. channel, is also mixed onto the channels which are present. You therefore hear everything contained in the original recording. However, if rear speakers are not present in your system, the surround effects cannot be reproduced. You therefore do not sit in the middle of events, but more as if in a theatre in front of an acoustic stage, on which the action takes place.

For the genuine surround experience you require at least a 5-channel loudspeaker set - with or without a sub-woofer.

To ensure that the **SR 1535 R** is able to distribute the information in all recordings correctly to your individual loudspeaker combination, it is important that you enter the correct settings in the Loudspeaker Configuration menu when installing your system, i. e. which loudspeakers are present and connected, what size they are, and how far they are located from the listening position. It is also essential to calibrate the loudspeakers so that they reproduce the signals at exactly the right volume. This ensures that sound effects take place exactly at the position intended by the film director. With the loudspeaker configuration menu you can also compensate for differences in sound between individual loudspeakers, e. g. when speakers have to be set up in the corners of the room. To simplify the speaker configuration process as much as possible the **SR 1535 R** features an **'Assistant'** which carries out most of the work for you fully automatically, i. e. level calibration, tone settings and speaker distances (see the chapter **'*Auto Setup*'**).

With its five integral output stages the **SR 1535 R** can directly drive the loudspeakers of a stereo, 3-channel or 5-channel speaker combination (see **'*Wiring Diagram 1*'**).

For six-channel and seven-channel loudspeaker sets an external power amplifier (e. g. **T+A A 1230** / **A 1530**) or active loudspeakers (e. g. **T+A TLS1-A** / **TLS3-A**) are required. The external power amplifier can be assigned either to the front channels or the rear channels (see **'*Wiring Diagrams 1a and 1b*'**).

Picture norms, connecting AV devices to the SR 1535 R

There are several different picture norms designed for transferring video data. The most common ones are: Video (also sometimes referred to as FBAS or CVBS), S-Video (also known as Y/C or S-VHS) and Component Video (common abbreviations YUV, Y Pb Pr or Y Cb Cr).

Video is supported by virtually all source devices, TV sets, monitors and video recorders. It is therefore the most universal method of connecting video devices to each other, but unfortunately also provides the worst quality of all.

S-Video offers a significant improvement in picture quality over Video. If monitor and source device permit, the S-Video connection should always be preferred.

The absolute best picture quality is obtained using Component Video. However, Component Video is not supported by video recorders, and only a few TV sets feature the appropriate inputs. Component Video is primarily used to connect DVD players to high-quality projectors, or other large-format monitors.

The **SR 1535 R** offers sockets for all three video norms listed above. It can also convert Video into S-Video, and S-Video into normal video signals. As the owner of an **SR 1535 R** you therefore do not need to limit yourself to standard Video as the “lowest common denominator” for all your video equipment. You can connect any devices to the **SR 1535 R**, no matter what the picture norms, and use them together. The **SR 1535 R** always automatically sets the best possible connection between source, monitor and video recorder.

With its integral norm converter the **SR 1535 R** automatically ensures that, for example, a normal video signal is fed to a standard video recorder when making a recording, even if the source device generates S-Video signals. With the **SR 1535 R** this also works the other way round: if you own an S-Video recorder, the **SR 1535 R** always ensures that an S-Video recording signal is available for it - regardless of whether the source device supplies an S-Video signal or only a standard Video signal.

The **SR 1535 R** also carries out a norm conversion for the video monitor connected to it. Regardless of what your source device generates, the correct video signal is always available for your monitor.

To ensure that the **SR 1535 R** is able to manage the various picture signals correctly, it is essential to enter the type of signal - Video or S-Video - which the source device supplies when you are installing each device to be connected to the machine (see the chapter **'*Configuration / Video Inputs*'**).

Available as an option: YUV converter module

The YUV converter module converts all Video and S-Video input signals to YUV output signals. If this module is present, all video signals are sent as YUV signals to the monitor and the additonal Video / S-Video cables to the monitor can be omitted. For details about the YUV converter module ask your **T+A** dealer or distributor.

Auxiliary YUV sockets

If your video monitor features a YUV input, you should connect the monitor and all YUV-capable source devices using YUV cables *in addition to* the Video or S-Video wiring. You can then switch your monitor to YUV mode when using these sources, and in this way obtain the absolute best possible picture quality when watching a film. The YUV module of your **SR 1535 R** features a signal bandwidth of 350 MHz, is absolutely loss-free, and is therefore prepared for future high-resolution video standards (HDTV).

When installing a device, a YUV input of the **SR 1535 R** must be assigned to each YUV source device connected to the system (see **'*Wiring Diagram 4*'** and the chapter **'*Configuration / YUV Inputs*'**).

Note:

Even if you own YUV-capable source devices, you still need to connect standard Video or S-Video cables, as these signals are essential for video recordings, and also - if required - for picture reproduction in the second listening zone.

Recording with the SR 1535 R

Picture norms

To make recordings using a video recorder the source device from which the recording is to be made must be connected to the **SR 1535 R** using either a Video or S-Video lead. It is not possible to make recordings from source devices which are connected solely using a Component input, as video recorders are not designed to handle Component signals.

Selecting the recording source

To select the source device from which the recording is to be made, press the REC button under the front flap of the **SR 1535 R**. While you hold the REC button pressed in, you can select the source device you wish to use by means of the source buttons.

Multi-room operations during recording

In multi-room mode the recording outputs Tape OUT and VCR1 OUT are switched off by default. If you select a recording source as described above, multi-room mode is blocked, and the record outputs are made available. This is necessary so that control of the system from the second zone is blocked, to prevent the danger of an accidental command from that location, possibly leading to the loss of the recording.

However, when a recording is taking place, it is possible to listen to the selected recording device in the second zone. The volume of the sound can also be set to any level you like.

Ending a recording
(multi-room mode only)

When you end a recording, control of the system from the second zone again becomes possible by holding the REC button pressed in until the message **'*REC OFF*** appears on the screen.

If you now release the REC button, the screen shows the message **'*ZONE-2*'**, and the Record outputs Tape OUT and VCR1 OUT are switched off again. Normal operations from the second zone are now once more possible.

Trouble-shooting

Many problems have a simple cause and a correspondingly simple solution. The following section describes a few difficulties you may encounter, and the measures you need to take to cure them.

If you find it impossible to solve a problem with the help of these notes please disconnect the unit from the mains and ask your authorised **T+A** specialist dealer for advice.

Service Menu

The operation of the service menu is similar to the operation of the setup menu (see chapter **'*Menu control system*'**).

Display Service Menu

First display the software version number:

- Switch on the machine.
- Wait until the screen displays the loudspeaker symbols.
- Hold the (⏮) button on the front panel pressed in (approx. 2 seconds).
- The software version number **'*VX-XX*'** and the DSP version number **'*XXX*'** of the machine are now displayed on the integral screen.
- When the software version has been displayed, hold the (SETUP) button on the front panel pressed in. The integral screen now shows the message **'-----'**, and the TV screen displays the **'*Service-Menu*'**.

In the **'*Service-Menu*'** the following items can be adjusted:

- Reset to factory default settings
  Choose **'*RESET YES*'** and then press the (OK) button and keep it pressed for a couple of seconds.
- Selection of the video standard. Choose between PAL and NTSC according to the requirements of qour TV set.
- The menu item **'BACK'** should always be set to **'*BACK*'**. The **'*ZO-2*'** setting is only for service tests.

Switching the remote control address

SR 1535 R:

Proceed as described above (see chapter **'*Service-Menu*'** until the software version is desplayed.

While the version no. Is displayed on the VFD display press the (SRC MENU) button until *RC-ADR 1* or *RC-ADR 2* is displayed. This switches the machine to the displayed address.

To switch back to the previous address, switch the machine off and repeat the procedure described above.

Remote control handset:

Hold the (OK) button and the numeric button (3) pressed in simultaneously. After about ten seconds the LED starts to flash. Now press the numeric button (1) or (2).

Pressing the numeric button (1) sets the remote control system to the normal address (*RC-ADR 1)*, whereas numeric button (2) sets the alternative address (*RC-ADR 2)*. The LED goes out to confirm that the switch has taken place.

Problem:	**Machine does not switch on (green LED does not light up).**
Cause:	Mains lead not plugged in correctly.
Remedy:	Check connections, push plugs in firmly.

Problem:	**Machine does not respond when buttons are pressed.**
Cause:	Static discharge or powerful interference (e. g. lightning) have corrupted the processor memory.
Remedy:	**Reset machine**: disconnect mains plug, wait about 10 seconds and re-connect. Switch unit on again.

Problem:	**Machine responds correctly to manual operation of the buttons, but does not respond to remote control commands.**
Cause 1:	Incorrectly inserted batteries or flat batteries in the remote control handset.
Remedy:	Re-install batteries correctly or fit new ones.
Cause 2:	**F6** remote control handset set to the wrong address.
Remedy:	Set the correct remote control address on the handset (see chapter **'*Switching the remote control address*'**).
Cause 3:	No visual contact between remote control transmitter and the surround receiver's remote control receiver.
Remedy:	Ensure direct line-of-sight contact between remote control transmitter and receiver. Note that glass doors may prevent the system working properly. Maximum range between transmitter and receiver approx. 8 metres. Position the receiver in such a way that it is not subjected to direct sunlight or strong artificial lighting. Fluorescent and energy-saving lamps are powerful sources of interference.

Problem:	**Loud humming noise from the loudspeakers.**
Cause:	Poor contact between the Cinch plugs and sockets, or a faulty Cinch cable.
Remedy:	Please check all connections and cables thoroughly

Problem:	**No sound, or distorted sound.**
Cause:	Incorrect audio connection to amplifier or TV set.
Remedy:	Check connections against wiring diagram; push all connectors in firmly. Select a different listening source when checking the amplifier.

Problem:	**No sound signal via the digital output.**
Cause:	Digital plug not connected correctly to the digital output socket on the surround receiver.
Remedy:	Check connections against wiring diagram; push all connectors in firmly.

Problem:	**No sound from centre, or centre sound signal too quiet.**
Cause:	Centre speaker not connected, but activated in '***Loudspeaker Menu'***.
Remedy:	Connect centre loudspeaker, or disable centre speaker in '***Loudspeaker Menu'.***

Problem:	**No bass, or inadequate bass.**
Cause 1:	No sub-woofer connected, but activated in '***Loudspeaker Menu'***.
Remedy:	Connect sub-woofer, or disable sub-woofer in '***Loudspeaker Menu'***.
Cause 2:	Size of loudspeakers entered incorrectly in '***Loudspeaker Menu'***.
Remedy:	Call up '***Loudspeaker Menu'*** and check that settings match the loudspeakers in your system; correct if necessary.

Problem:	**No sound from individual loudspeaker.**
Cause 1:	Loudspeaker not activated in '***Loudspeaker Menu'***.
Remedy:	Call up '***Loudspeaker Menu'*** and enter the type of loudspeaker connected.
Cause 2:	Loudspeaker cable not connected correctly, or short-circuit in speaker cable.
Remedy:	Check connection and speaker cable, correct if necessary.
Cause 3:	**SR 1535 R** not set to surround mode.
Remedy:	Set to surround mode, or select one of the sound fields.
Cause 4:	Programme contains no information on the auxiliary channels (e. g. stereo material).
Remedy:	If you wish, call up the '***Main Menu'*** and select a sound field.
Cause 5:	The level for the channel affected is set too low.
Remedy:	Call up '***LS Balance Menu'*** and raise the level.

Problem:	**'Main Menu' not displayed on the television screen.**
Cause:	Screen display of '***Main Menu'*** switched off in '***Configuration Menu'***.
Remedy:	Call up '***Configuration Menu'*** and switch on '***Screen Menu'***.

Problem:	**No picture from some or all source devices.**
Cause:	Source devices not supplying the switch voltage which the TV set requires to switch over to AV mode.
Remedy:	Set television to '**constant AV operation'** mode.

Problem:	**Neither on-screen menu nor other external programmes appear on the TV screen. TV only shows those stations which are received via its own aerial.**
Cause 1:	Video lead not connected properly.
Remedy:	Push in all connectors firmly.
Cause 2:	The TV set does not switch automatically to the AV input.
Remedy:	Set the TV set to '**AV mode'**.

Problem:	**Picture unstable.**
Cause 1:	Synchronisation signal absent.
Remedy:	Push connector in firmly, or set television to '**AV mode'**.
Cause 2:	Incorrect OSD picture norm.
Remedy:	Bring up the **'Service Menu'** on the screen (see section entitled **'*Restoring the default settings*'**). Use the ⏭ / ⏮ buttons to select the menu point OSD. With the ⏮⏮ / ⏭⏭ buttons you can now select the appropriate picture norm (PAL / NTSC).

Problem:	**Monochrome picture only.**
Cause:	Incompatible picture norms set on the TV, the **SR 1535 R** and the source device.
Remedy:	Set TV, surround receiver and source device to the same picture norm.
Note:	If problems persist, set the **SR 1535 R** to the '**RGB / Video**' norm; select the picture norm '**Video'** (occasionally also termed '**FBAS'** or '**Composite'**) on the TV set and the source device.

Problem:	**Nothing appears on the surround receiver screen.**
Cause:	The screen is switched off.
Remedy:	Switch the screen on again in the '***Configuration Menu'***.

Problem:	**When playing an NTSC-DVD the on-screen menu is distorted.**
Cause:	The TV set does not feature automatic format detection for NTSC, and has been set manually to NTSC. The **SR 1535 R's** on-screen menus are only generated in PAL format, so this operation is not possible.
Remedy:	Use a TV set with automatic PAL / NTSC format switching, or use the surround receiver's integral screen.

Problem:	**Picture correct, but no sound audible through the SR 1535 R.**
Cause 1:	No sound connection between source device and surround receiver.
Remedy:	Complete the sound connection (analogue or digital depending on mode); see section entitled '***Installation, wiring and using the system for the first time'***.
Cause 2:	No sound input, or the wrong sound input, has been assigned to the picture input in the '***Inputs Menu'***.
Remedy:	Check the sound input to which the source device is connected. Call up the '***Inputs Menu'*** and carry out the correct assignment.
Cause 3:	The loudspeakers are switched off.
Remedy:	Switch on the speakers using the (A) button.

Problem:	**No output signal at the loudspeakers; the speaker indicators on the screen flash alternately. The screen shows the message:** PROTECT
Cause 1:	The unit is overheating, and the PROTECTION circuit has tripped.
Remedy:	Reduce volume and wait for about 20 seconds. If the unit does not switch on again automatically, it has become too hot and should be left switched off for a few minutes to cool down.
Cause 2:	Short-circuit in the speaker leads, e. g. stray wire ends touching at the speaker terminals, or mechanical damage to the cables.
Remedy:	Check speaker leads and terminals, twist wire ends together neatly, replace damaged cables.

Problem:	**The signal from an analogue source device occasionally suffers distortion during very loud passages or the screen shows** OVERLOAD **.**
Cause:	The analogue/digital converter is overloading.
Remedy:	Re-calibrate the analogue/digital converter to this source device. See '***Calibrating analogue source devices'***.

Glossary

Analogue direct

High-quality reproduction mode for analogue stereo sources. The A/D and D/A converters and tone control circuits are by-passed, in order to obtain the shortest possible signal path and thus the highest possible sound quality.

Attenuator - aerial attenuator

If the receiver is tuned to a station which is close to an unusually powerful local transmitter, you may encounter audible intermodulation effects (whistling and twittering sounds). The attenuator reduces the level of the signal received from the aerial, and thereby reduces the intermodulation effects.

AV recording source

The source device whose signals are passed on for recording on a video recorder. With the **SR 1535 R** the recording source can be selected independently of the current listening / viewing source. This means that another programme can be viewed or listened to while you are recording a programme on the video recorder.

AV source device

A source device which supplies sound and picture signals. The sound signals may be generated in analogue or digital form.

Cable operation

During the development process of the **SR 1535 R** surround receiver we placed great importance on the requirements of the European cable networks. The unit's great resistance to overload and its high channel separation permit problem-free cable operation without loss of quality.

Centre

Front centre loudspeaker, located below or directly adjacent to the TV set.

dB

The unit of measurement for electrical levels is the **d**eci-**B**el (dB).

DSP (**D**igital **S**ignal **P**rocessor)

The **SR 1535 R** employs a fully programmable signal processor. A DSP can process signals using a program stored in the program memory. The program can be updated at any time, which means that the decoder can be kept abreast of new developments.

Field strength

The electrical field strength is the value used for the level (signal strength) of the signal received and passed on by the aerial. The higher the field strength of the station, the better in general terms will be the reception quality. The field strength is determined primarily by the following factors:

1. Distance from transmitting station
2. Obstacles (mountains etc.) between transmitting station and receiver
3. Transmitter power
4. Quality and orientation of the aerial system

The final point is of crucial importance. With a poor aerial system it is not possible to obtain good reception results. When you are planning or intending to improve your aerial system please ask your **T+A** dealer for help and advice, as he will have sound local knowledge.

FM = Frequency Modulation

The stations on the FM radio band employ the type of modulation known as "FM". This mode of operation provides maximum possible sound quality and resistance to interference.

Front speakers

Front pair of main loudspeakers, set up to left and right of the television set.

Muting - background noise suppression

The **SR 1535 R** features automatic noise suppression, which eliminates the annoying hiss between stations during a station search. It also suppresses weak stations which are not worth receiving.

Narrow = narrow-band reception

IF filtering with a narrow reception 'window' (see also "**Wide**").

Preset - station memory

The **SR 1535 R** can store up to 60 radio stations with all the reception settings, which can then be called up again by pressing a button.

RDS = Radio Data System

Many radio stations transmit additional information in digital form along with their programmes. The **SR 1535 R** features an integral RDS decoder. On its alpha-numeric screen it displays the station name in plain text when an RDS station is tuned in. This is a great advantage when seeking a particular station. The Radiotext function provides information pertaining to the current programme on the screen of the **SR 1535 R**.

Rear speakers

Rear pair of loudspeakers, set up behind the listening position, designed to provide spatial sound effects.

RGB

High-quality picture norm, utilising separate wires for the colour signals **red**, **green** and **blue**. This avoids the problem of signal contamination; **RGB playback provides the best possible picture quality.**

R LINK

Universal control interface by means of which all the components of a T+A system communicate, provided that they are fitted with an **R LINK** control socket.

Scart

Widely used standardised connection using a 21-pin connector. SCART leads can transfer all picture norms and additional control signals (e. g. for 3:4 / 16:9 picture format switching). Adaptors are available in specialist shops for connecting a SCART socket to other standard connectors (Cinch or Hosiden).

Search threshold

The search threshold is the minimum field strength value at which the automatic station search stops. It is set at a level which automatically skips very weak stations.

Standby = "ready" mode

The **SR 1535 R** can be switched on from stand-by mode at any time by pressing a button on the remote control handset.

Sub-woofer

Loudspeaker designed for reproducing low bass signals. It is used for special deep bass effects which are encoded on the LFE channel in Dolby Digital and DTS material. When combined with small satellite speakers they also provide a full-range bass response.

S-Video

High-quality picture norm with separate brightness and colour signals. Better picture quality than standard video. However, as the colours are not transmitted separately, picture quality is not quite as good as with the RGB method.

Tuning indicator = centre tuning indicator

The centre indicator on the screen allows you to judge when a station is correctly tuned. When the cross symbol is in the centre, the station is correctly tuned, and reception will be as good as is possible. If the cross is left or right of centre, the tuning can be corrected manually.

Update

Method of bringing the software used by the decoder's main processor or signal processor abreast of new developments. Updating the software provides for future expansion of functions and changes to meet new requirements.

Video

Standard picture norm: colour and brightness information is transmitted by a single conductor. Standard video connections are present on all AV devices.

Wide = wide-band reception

In what is known as the Intermediate Frequency (IF) stage the signal from the currently selected station is filtered out of the received signal. With the **SR 1535 R** it is possible to select either a wide filter 'window' (= broadband) or a narrow 'window' (= narrow-band). In the wideband setting the reproduction quality is slightly better, provided that reception conditions are very good, and that there are no transmitters close to the selected station which could cause interference.

YUV

High-quality picture norm, whereby the different colour components are transferred using separate cables, in a similar way to RGB.

Specifications

Pre-amplifier / Decoder / Videosection

A/V inputs	**Audio**	Variable sensitivity 0,5...4 V / 20 kΩ (adjustable by automatic calibration process)	
	Video (Cinch)	FBAS (Composite) / 75 Ω	
TV + VCR A/V output:		FBAS (Composite), S-Video / 75 Ω	
Analogue outputs (recording):		2 V / 100 Ω	
Digital inputs (3 x coaxial, 3 x optical):		DolbyDigital, dts, 48 kHz and PCM-Stereo 44.1 kHz, 48 kHz and 96 kHz	
Digital outputs (2 x coaxial, 1x optical):		PCM-Stereo, SP/DIF, 44,1 kHz	
A/D converter:		2 channel Sigma/Delta converter, 24 bit, 48 kHz	
D/A converter – Main channels:		8 channel, 24 bit, 192 kHz	
D/A converter – headphone + recording:		2 channel Stereo Sigma/Delta converter, 24 bit / 192 kHz	
Decoder type:		Software-based decoder / 56 bit signal processors	
Operating modes:		Dolby Digital, Dolby ProLogic IIx, dts Digital Surround Dolby Digital EX, DTS ES / discrete, DTS Neo:6 Stereo, Mono, 2-Channel-tone I and II	
Volume control:		5 separate 2-channel analogue controls, 1.5 dB steps	
Tone controls:		fully digital, channel-separate	
		Analogue-Stereo direct	**Digital-mode**
Frequency response:		1 Hz . . . 400 kHz	1Hz . . . 22 kHz
Total harmonic distortion:		< 0.002 %	< 0.004 %
Signal : noise ratio (A-weighted):		> 107 dB	> 106 dB

Tuner

FM-RDS PLL Tuner with **4 tuned circuits** and **Dual-Gate MOS-FET Frontend**		
Frequency range		88,5 .... 108 MHz
Sensitivity	**Mono** (S/N = 26dB) **:**	1.3 µV
	Stereo (S/N = 46dB) **:**	40 µV
Excessive signal level:		> 110 dB/µV
Selectivity (δf=300kHz) **Narrow/Wide:**		80 / 60 dB
Frequency response (+/- 1,5 dB) **:**		5 Hz – 15 kHz
Total harmonic distortion	**Stereo Wide/Nar.:**	0,1 % / 0,15 %
	Mono:	0,1 %
Signal : noise ratio (A-weighted) Stereo/Mono:		70 dB / 75 dB
Channel separation (f = 1kHz):		> 40 dB
RDS-funktions:		Station name, radiotext
Presets:		60

Output stage

		Stereo-mode	**5 channel mode**
Nominal power per channel	into 4 Ω / 8 Ω:	210 W / 140 W	150 W / 110 W
Peak power per channel	into 4 Ω / 8 Ω:	310 W / 170 W	250 W / 170 W
Power bandwidth:		1 Hz . . 300 kHz	
Frequency response (+0 / -3 dB) **:**		1 Hz . . 400 kHz	
Slew rate:		60 V/µs	
Damping factor:		> 500	
Total harmonic distortion:		< 0.002 %	

General

Mains power:	230 V / 50 Hz, 600 VA
Power consumption	maximum 1500 VA
Standard accessories:	Mains lead, SCART/S-Video lead, **F6** remote control Calibration microphone operating instructions, quality control- and guarantee certificate
Optional accessories and expansion units:	Interconnect and loudspeaker cables connectors, rack systems, matching design YUV converter module

We reserve the right to alter specifications.

T+A elektroakustik GmbH & Co. KG

Herford

Deutschland * Germany